Fall 1983

Iowa Agriculturist 85.01

Zita Metzger

Chris Jorgensen

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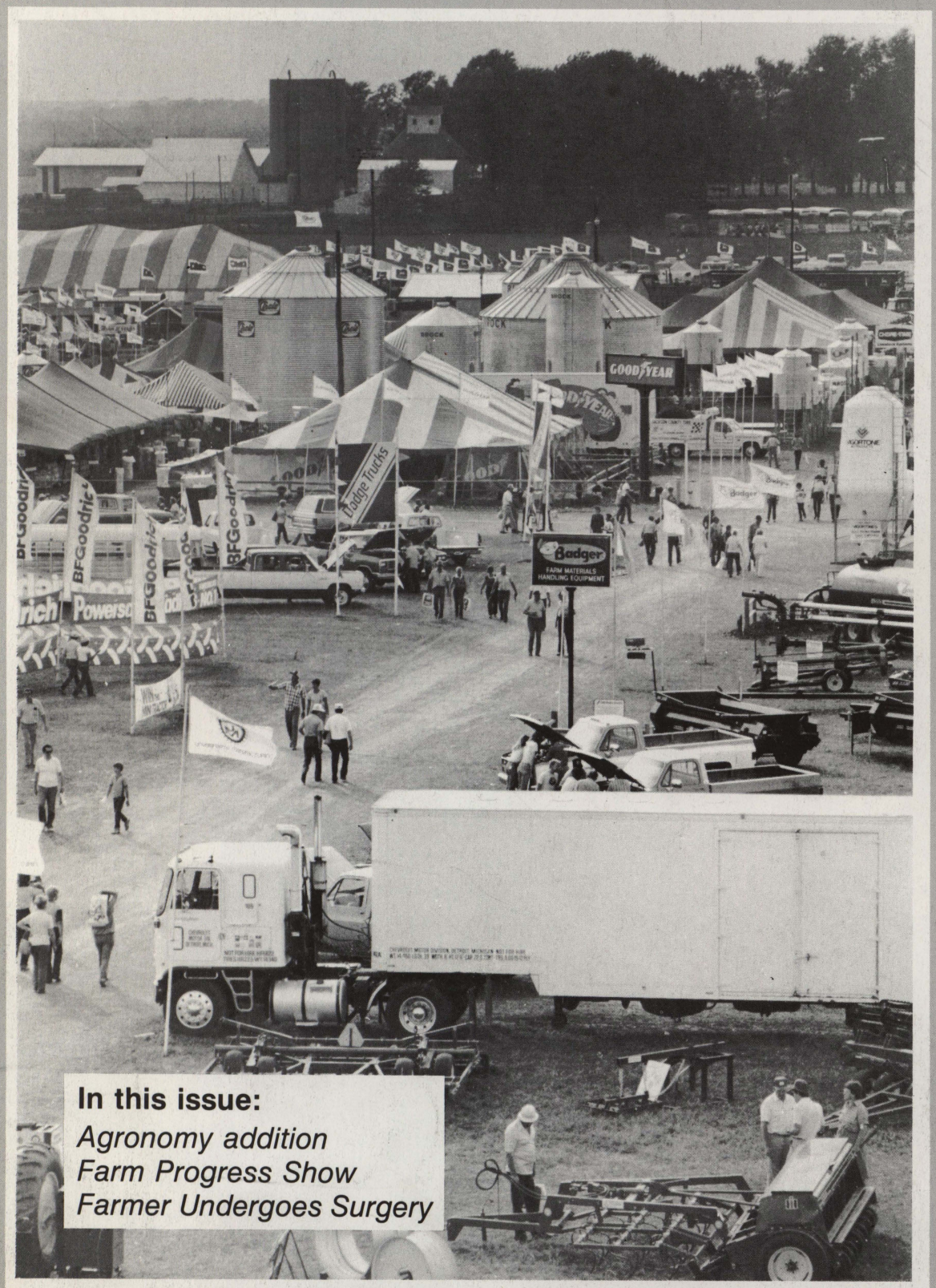

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Editor Chris Jorgensen captured an elevated view of the 1983 Farm Progress Show held near Marion, Iowa. The September event was attended by more than 340,000 people. For more photos of the show, see pages 16 and 17.

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Udderances

pork month

Pig Tales

Man's best friend may well be the hog. While the canine provides companionship and sometimes protection, it is the hog that sustains, enhances, and sometimes saves human lives. In addition to chops, hams and other meat for the dinner table, the hog supplies byproducts that play a vital role in both the medical and industrial segments of society.

Historically, the main hog byproduct was lard, which was used for cooking and household purposes and also for munitions in earlier days, according to Palmer Holden, extension swine specialist at Iowa State University. He says the extremely fat hogs of 50 to 100 years ago were prized as much for their lard as for their meat. Today, though meat is the major product, lard has declined in importance while other byproducts have been put to significant use.

Hogs make an important contribution to human health. The glandular, intestinal and reproductive systems of the hog are important sources of pharmaceuticals. Heparin, a natural anti-coagulant used to thin the blood and prevent or retard clotting during surgery, is obtained almost exclusively from hog intestines. Relaxin, a hormone frequently used during childbirth, comes from sow ovaries.

Pigs are a source of nearly 40 drugs and pharmaceuticals, including such common products as cortisone and insulin. Although many of the products are also produced synthetically or come from other sources, those that come from hogs are closest chemically to human systems so chances of allergic and rejection reactions are reduced.

Surgeons seeking to repair damaged human heart valves frequently use pig valves. The human and hog circulatory systems are similar and the pig valves will function normally in the human body, requiring smaller doses of anticoagulants than do mechanical valves.

The circulatory system is not the only part of the pig that is similar to the human. Also nearly identical are the alimentary and gastrointestinal systems, the anatomy, the skin and teeth. These similarities have led to the use of hogs for research areas such as nutrition, atherosclerosis and circulatory diseases, alcoholism, effects of radiation, orthodontics, tissue transplant and rejection, and many other fields.

In the industrial world, hog byproducts are sources of chemicals used in the manufacturing of lubricants, adhesives and specialty chemicals. Blood is used as a sticking agent for insecticides, a leather finish, plywood adhesive and in fabric printing and dyeing. Bones and skin are used in the manufacturing of glue and gelatin, in pigskin garments, shoes and handbags. Dried bones produce buttons and bone china. Bone meal is used in feed and fertilizer as well as in porcelain, enamel, glass and water filters. Gallstones are shipped to the Orient where they become necklaces and hair ornaments. Bristles are used in hair brushes, artist's brushes, insulation and upholstery.

The fatty acids and glycerine from the pig become part of insecticides, weed killers and oil polishes in cosmetics, rubber, emulsifiers, floor waxes, chalk, putty, matches, phonographic records and a host of other everyday products.

While all the byproducts are being put to good use, the pork provided by a market hog offers high-quality protein and several minerals including iron and zinc, thiamine and other B-vitamins. According to a recent U.S. Department of Agriculture study, lean pork has just 197 calories per 3-ounce serving.

With improvements in hog production and management, new developments in meat processing, and discoveries of even more ways to use byproducts, Holden says the future looks bright for the pig-people relationship.

Foreward

ISU Campus Magazines

This issue of the **Iowa Agriculturist**, marks the beginning of Iowa State University Campus Magazines' yearly circulation. ISU Campus Magazines will include the magazines **Iowa Agriculturist**, **Ethos** and **Outlook.**

By combining forces, ISU Campus Magazines will present a magazine at regular intervals throughout the year to ISU students. Advertisers will also benefit from the merger. Businesses can now advertise in all three magazines or in just one magazine.

The Ag. itself has changed since the past issue. Two new features which have been added to the magazine are a column from the past, "*Over the Brew*," and a column looking back at previous issues of the magazine, "*Years Past*."

The Ag., under last year's editors, Betsy Johnson and Jeanene Powers, was chosen by the Agriculture Communicators of Tomorrow as the top magazine in its critique contest. This marks the second year in a row that the Ag. has received this award and we will try to maintain this level of excellence in the future.

The Editors—

Zita Metzger, Chris Jorgensen

Planter Punches Through Residue Problem

The advantages of leaving crop residues on fields to minimize loss of topsoil are easily recognized by farmers and nonfarmers alike. Yet that residue may be a prime reason why conservation tillage, either minimum or no-till, has not been widely accepted, says Erdal Ozkan, extension agricultural engineer at Iowa State University.

Residue, for all its attributes, clogs conventional furrow planters. Planting depth and seed coverage are erratic, resulting in nonuniform emergence, growth and maturity, harvesting delays and yield reductions.

But researchers at ISU are working on a planting concept that should roll right over residue, punch holes into the ground and drop seeds into the pre-punched hole. The machine is called a punch planter.

A prototype built at ISU in 1981 and operated in 1982 proves that the concept is a good one. In test plots with 75 percent residue cover, the ISU punch planter achieved reasonably uniform planting depth, seed coverage and spacing between seeds regardless of travel speed (planter operated at 2 mph to 5 mph). Emergence, at 81 percent, was unaffected by the planter's performance (germination was 82 percent under laboratory conditions).

Travel speed did affect the percentage of holes that had one seed. At 5 mph, 57 percent of the holes had one seed. Reducing speed to 2 mph increased that percentage to 91 percent.

Punch planting is one of the earliest methods of food crop production, and human-powered punch wheels are still used in developing nations. The ISU prototype is similar in concept but replaces human power with machine power.

The punch wheels of the ISU prototype contain seed compartments connected to each hollow hole-punching extension. Seeds are dropped automatically into holes as they are punched.

In searching for the optimum design, ISU has imported a punch planter manufactured by Horsch in Germany. The machine has been in production for several years and is used to plant corn through plastic. "We're trying to find out if it can measure up to no-till conditions in Iowa soil," Ozkan says.

The German planter, which arrived this spring, differs from the ISU planter in the shape of the openers. Rather than a finger-like projection with wedged cap, the Horsch openers are shaped similar to a clam-shell post-hole digger.

BUGS: Bombarding Bins and Bread

According to Charles Storey, a research entomologist at the U.S. Grain Marketing Research Laboratory in Manhattan, Kan., less than 10 percent of grain stored on farms is treated with an insecticide. The result? In 1980, bugs ate more than $31.5 million worth of wheat and perhaps 44 million bushels of corn.

Bugs in grain have become such a problem that the Kansas Wheat Quality Council stated that flour millers were finding it difficult to find wheat for flour production that would be able to meet federal food insect level standards.

The FDA allows no more than 50 insect fragments per 50 grams of flour - or about 454 fragments per each one-pound loaf of bread.—*Land O'Lakes Mirror*

Men Move in on Market

Men now make up about one-third of supermarket shoppers according to a recent survey by the Food Marketing Institute. More television commercials and store displays, notes the institute, are aimed at male shoppers, a sure sign that they are a significant segment of the customers. —*Land O' Lakes Mirror.*

Farmland Prices Fall

The average price for an acre of farmland dropped again last year in the United States. The average, $744 per acre, was 6 percent below last year's average and 6.5 percent below the record average of $795 two years ago. This is only the fourth time in 50 years that farmland values have declined and the first time since 1933 that they've fallen two years in a row.

While states posted higher averages, every state in the Midwest suffered from falling prices. Average land prices in Iowa dropped 13 percent, from $1,802 to $1,568 per acre. Values slipped from $1,073 to $1019 in Wisconsin, from $1,197 to $1,065 in Minnesota, from $436 to $414 in North Dakota, from $291 to $271 in South Dakota, from $626 to $563 in Nebraska, and from $585 to $544 in Kansas.—*Land O' Lakes Cooperative World.*

Years Past

by Chris Jorgensen

In 1908 the **Iowa Agriculturist**'s motto was "The Farmer's Paper from the Farmer's School." The magazine came out monthly and had a subscription price of 50 cents per year. Each issue was about 32 pages of which ten were for advertising.

In the September issue there was an article which says "the days of unscientific farming in the United States are at an end. The demands of an ever increasing population must be met by the application of more scientific methods." Another article talks about that year's winter wheat harvest in Iowa and noted that some counties had yields as high as 40 bushels an acre.

In the October issue there was an article on raising popcorn and another on fruit growing in Colorado. One story explored the benefits of crossbreeding in cattle.

The cover of the November issue featured a turkey for the Thanksgiving season and lead off with an article on soil analysis and its value to the farmer. One article dealt with rearing a fall hog litter. Another article told how to apply business methods to farming which stressed the necessity of a good bookeeping system.

The Ag.'s motto in 1933 was "Exponent of the Newest in Agriculture."

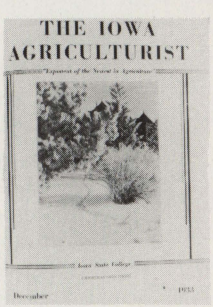
The November cover featured the winners from the the 20th Little International judging contest, which is now known as the Little North American. Inside the issue were articles on the development of hybrid sweetcorn and a poor duck hunting season in the state, which also noted that it had been 20 years since the last wild geese nested in Iowa.

Another article was about the new dean of agriculture in charge of teaching—H. H. Kildee. He was formerly vice-dean of agriculture at Iowa State College.

The last article in the issue was entitled *"Adieu to Lake La Mud"* and referred to, you guessed it, an attempt to clean up Lake Laverne. The project included the dredging of 20,000 square yards of dirt from the lake and the construction of a concrete dam that raised the level of the lake one to two feet.

The December issue featured a snow covered pine tree in front of Botany Hall formerly known as Old Agriculture Hall, now known as Old Botany.

The lead off article in this issue was *"Ag. Graduates Needn't be Bachelors..."* and showed the results of a survey of ISC coeds showing that most wouldn't mind being a farm wife. The story did advise that a potential husband should have at least a model "T" as the coeds frowned on a horse and buggy for transportation.



Another story was about 1933 graduate Bertha Bailey who was the first women member of the farm crops judging team and was also a member of the American Society of Agronomy and Phi Kappa Phi.

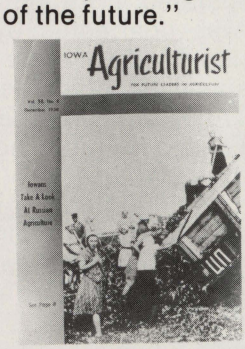
In 1958 the Ag.'s motto was "For Future Leaders in Agriculture," and it came out in October, November and December with each issue running about 16 pages.

The October issue was dubbed the "Freshman Issue" and had a welcome letter to the freshmen in agriculture from Dean Floyd Andre, as well as an article entitled *"Keep Your Books Like Knew."*

The cover story was entitled *"Iowa State Know-how goes Overseas,"* and told about the efforts of Iowa State faculty and graduate students in the Philippines, Laos, India and Thailand.

Also included in the issue was a photo story on the freshman experience at Iowa State College. Among the dilemmas that faced freshmen in 1958 were dating, writing home for money and parking problems on campus. Some things never change.

The November issue's cover story was *"Seasonal Decorations in the Home."* Also included in the issue was a story that dealt with how farming had become a highly specialized and complicated business. The story ended by saying, "large, centrally managed units are the word of the future."



The December issue's cover story was about Soviet agriculture. Other articles dealt with the increasing number of ponies in Iowa, tractor safety and forestry. The latter article also included a description of the new field of tree genetics.

Editor's note—This is a new feature to the **Iowa Agriculturist** *and will appear in all future issues. We hope it will provide a historical insight into agriculture and Iowa State University through the 81-year span of the Ag.*

UHT: MILK FOR MONTHS

by Zita Metzger

How many times have you had to throw out a carton of milk before it was empty because the milk had spoiled? People who live in Florida, Georgia, North Carolina and South Carolina no longer have this problem thanks to a new milk product with a shelf life of four months being processed by Dairyman Inc., Louisville, Ky.

Pasteurized milk has a shelf life, if refrigerated, of 14 to 20 days whereas Dairyman's new milk product, ultra-high temperature milk (UHT), has a shelf life of four months without refrigeration, says William LaGrange, a professor of food technology at Iowa State University.

The longer shelf life is due to the processing technique. In the UHT process, milk is heated to 138 degrees Celsius (280 degrees Fahrenheit) for a few seconds to destroy bacteria and heat resistant spores. The milk is then packaged in sterilized cartons made of five layers of material; plastic, paper, plastic, foil and another layer of plastic, a spokesman for Dairyman says.

In contrast, pasteurized milk is heated to 72 degrees Celsius (161 degrees Fahrenheit) for a minimum of 15 seconds and packed in plastic jugs or waxed cardboard containers. Surviving bacteria can cause spoilage after a period of a few days.

Three things cause bacteria to form in milk causing it to spoil, says the spokesman; heat, air and light. "Because UHT milk is packaged in a foil pouch, air and light cannot get to the milk and cause bacteria to form."

"On the whole, UHT products are considered to be microbiologically stable and thus stored without refrigeration," says the **Journal of Food Protection,** published by the International Association of Milk Food and Environmental Sanitarians, Ames, Iowa. Once UHT milk is opened, refrigeration is recommended.

A new type of container was the breakthrough for UHT milk according to the magazine **Land O' Lakes Mirror**. The container was sterilized separately from the milk, which gave the milk a better flavor than when the milk and container were sterilized together.

Land O' Lakes has been very active in asceptic processing, the forerunner of UHT, but it is not producing UHT milk.

UHT milk in America is processed so that it has a shelf life of four months. In Europe, where UHT milk has been sold for many years, the milk has a shelf life of one year.

"We're processing the product so it is more acceptable to the American consumer," says the Dairyman spokesman. After longer durations of high temperature heating, the milk tends to have more of a burnt taste.

LaGrange explains, "Europeans have grown up tasting this kind of milk and are accustomed to it." The reason that Europe has been using the product and the United States has not is that many Europeans do not have refrigerators, he adds.

UHT milk was introduced in America because of the energy shortage, LaGrange says. "It was thought that it would save energy because the product didn't have to be refrigerated," he says. "Actually, more energy is required to process UHT milk than to process pasteurized milk."

LaGrange adds that the packaging and processing of UHT milk is expensive. "I don't think the dairy industry will rush into it," he says.

The product is being sold in quarts for 89 cents compared to pasteurized milk for 79 cents, the Dairyman spokesman says. Three half pints of UHT milk are sold for 99 cents. "Compared to a can of pop which has no nutritional value, this is a good buy," he says.

UHT milk is packaged under the label "Farm Best." Under the label "Sip Ups" is a UHT milk drink with chocolate, vanilla, strawberry, fruit punch and banana flavorings.

"The big question is whether the product will catch on," says LaGrange. He says he foresees disadvantages for the consumer. Because of UHT's long shelf life, a shopper could take home a month's supply, but LaGrange says it would be hard to carry this much home and the consumer would also need extra storage space. Also, the biggest package UHT milk comes in is a quart whereas fluid milk comes in gallons.

"For certain markets, the product will fit in," LaGrange says. These markets are vending machine users, campers and people with lactose intolerance.

Although UHT milk has its advantages, LaGrange says, "the current milk industry is so entrenched it would take quite a program of education and advertising to gain a major portion of the market." ◻

Tips for Farmer-Attorney Talk

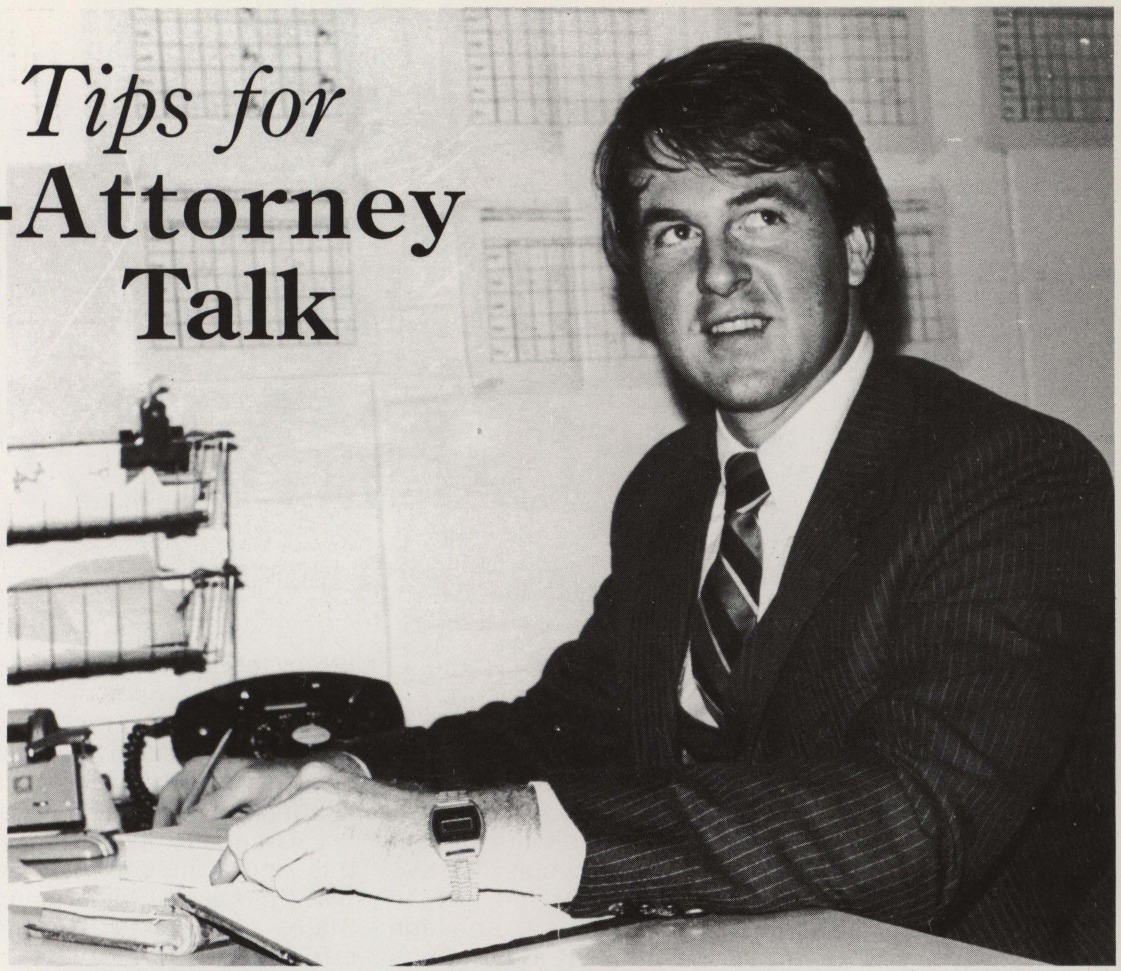


Photo by Robin Shepard.

by Timothy Roberts

As a lot, farmers are a disparate group. Their members range in philosophies from that of the Farm Bureau to the Grange Organization. The one thing that farmers have in common is a dislike of attorneys and hesitancy to spend money on attorney's fees. This article will explore attorney-farmer relationships and relate suggestions for improvement in the effectiveness of these collusive encounters.

The first thing that a farmer should do before getting an attorney is his homework. He should find out as much about each attorney or firm as is possible. This information should be ascertained from bankers, insurance agents, realtors or friends. He shouldn't rely on the opinion of one person. He should get several different angles.

Not only should he just ask who is recommended, but also why this particular attorney is recommended. Was this person recommended because he was prompt or cheap, because he was a good communicator and listener, or because he won a big verdict for a client? An attorney who is familiar with everyone from the neighborhood tap may not be the suitable person to draw up a marital deduction clause in your will or sue your herbicide dealer.

Attorneys generally specialize, so the particular attorney's area of expertise should be ascertained. An expert in anti-trust laws is rarely familiar with child custody procedures. Researching an attorney at this stage may keep farmers from an unfortunate experience with a particular attorney.

After an attorney is selected, a well-prepared farmer should attempt to isolate what he wants done. General goals should be clearly presented so that the attorney learns the ultimate aims of the farmer. Short-term and long-term goals may often be contradictory and farmers should carefully weigh the importance of each goal if a trade-off is necessary.

Too often attorneys may overlook what is best for the farmer in the long run when a farmer only talks about a short-term problem in an interview. For example, a 60-year old farmer may discuss a like-kind exchange of property with an attorney to take care of his short-term tax problem when the farmer's real concern is getting out of farming and transferring his assets to his children.

A good attorney will always be listening and asking questions about the farmer's priorities. Nevertheless, farmers should make their goals clear so that there is no possibility of misunderstanding.

With an attorney selected and with goals in mind, several things should be kept in mind at an initial meeting. First, the farmer should give all of the information he thinks may be relevant to the situation. The attorney can then sort out irrelevant material.

Always bring the relevant papers, such as contracts, wills, leases, partnership agreements, tax returns or dissolution decrees. A question can sometimes be quickly answered at this time if the attorney can look at the document. Don't expect an attorney to answer a question about an old will if he does not have it in front of

him. A farmer can save himself valuable time and money if he brings all relevant data to an attorney in an organized manner.

The second requirement is to listen very closely to what is being said. Notes should be taken if one does not easily remember communications. Is the attorney answering the questions in a responsive manner? If not, rephrase them or repeat the question.

If the attorney is not being clear, ask him to repeat or clarify what he said. Too often clients are reluctant to ask questions because they don't want it to be known that they don't understand something. This is unfortunate because the attorney should be making sure that he is being understood.

Attorneys often feel that clients are not understanding a large percentage of what is being said. This lack of communication can often be avoided by an assertive client. If the attorney makes no real effort to communicate properly, perhaps the farmer should consider seeking the advice of a different attorney.

A third important area is to evaluate the attorney himself. Farmers tend to not shop around enough. A client does not have to retain an attorney. The farmer can go to two or three attorneys to find out who impresses him the most, or who can meet his needs for the least amount of money, or who can attend to his needs most rapidly. A second opinion on an important matter may also be necessary and also serve to instill a feeling of security.

At the interviews, the farmer should watch the attorney closely to check the attorney's eye contact, listening skills, attentiveness, straight-forwardness, knowledge in the area and ability to honestly respond to questions. Does the attorney honestly admit it when he cannot answer a question without further research or does he give an unresponsive answer? Does the attorney interrupt before a statement is finished? Does he seem honest? Does the attorney seem hurried? Does the attorney sum up what he will do and what the farmer is to do at the end of the interview? Does he state when he will have his work completed? Does the attorney discuss what his fee arrangement will be?

If the attorney does not satisfy the farmer, the farmer should indicate exactly what is unclear to him. For example, if the farmer cannot remember the importance of a Q-Tip, he should ask the attorney to explain it to him again. A good attorney will almost always discuss fees at a first meeting. If not, the farmer should bring it up. This is not a time to be shy because attorney's fees are a very important factor in deciding whether to pursue a certain course of action.

After the interview, the farmer should record the information he has learned, the papers he has gathered, important due dates, and his evaluation of the attorney. As time passes so do memories, therefore a thorough review of the events may be helpful at a later date. As events transpire, observe the attorney's attention to detail, his negotiation skills and how promptly he gets to the assigned work. If he seems slow, he should be politely asked what he has done and what he is going to do next. Persistence often pays off here as attorneys are often professional procrastinators who are swamped by large amounts of unfinished work.

There are several misconceptions that farmers have about attorneys which are worth mentioning here. First, attorneys generally do charge for telephone calls. Much of each attorney's day is spent on the telephone and such advice given on the telephone is equally important as when it is given in person.

Wills and tax preparation are usually quite good buys because attorneys generally do not bill out their entire time in these areas. Since tax laws change quite frequently, it is advisable to have wills checked at regular intervals.

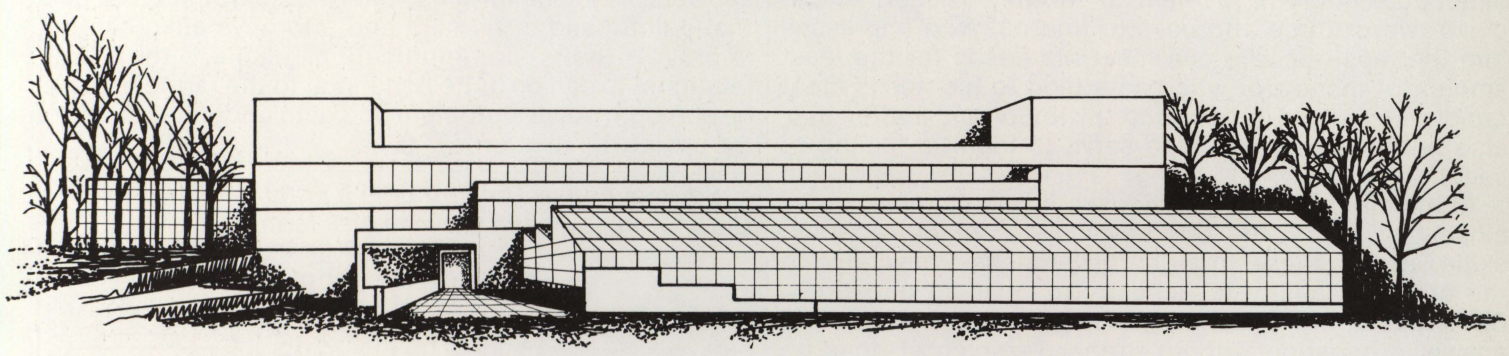
Another misconception is the importance of research. Attorneys cannot possibly know all the areas of law or all of the recent pronouncements of law in a given area. Therefore, the research of statues, case law and administrative rulings are generally essential to answer a farmer's question. This is often the largest part of an attorney's bill when complicated estate planning questions are involved. Yet, farmers should still ask for the details of what was researched and such research should be itemized on the bill.

The central consideration when dealing with an attorney is to clearly articulate goals and to demand that the attorney be responsive and clear in formulating his answers. The legal process really does not need to be all that painful and, if farmers and attorneys alike can both improve their communication skills, the entire relationship can be quite beneficial to the farmer because he can both solve a problem and gain understanding from the advice of his attorney. **a**

Editor's note—The author is a practicing attorney from Burlington, Iowa and grew up on a farm.

After years in various buildings, the agronomy department will soon be

Under One Roof



by Chris Jorgensen

Agronomy students in the future will be able to take all their major classes and find all their teachers in the same building thanks to an addition to Agronomy Hall.

While the agronomy department may not be the fastest growing department in the University, there has been a 72 percent increase in undergraduate enrollment and a 95 percent increase among the graduate students in the last ten years according to agronomy department figures.

The majority of the graduate students are engaged in research activities as well as 50 full-time faculty members. Agronomy Hall doesn't have enough room for all these people to conduct their work efficiently according to the proposal for the addition.

The addition, whose construction will begin this spring, will be two and half times as large as the present facility.

With the addition completed, the agronomy department will be housed in one building for the first time in 30 years, says Agronomy Department Head John Pesek. He adds that the year after the department moved into the present building in 1952, faculty were being moved into other buildings on campus because of cramped quarters.

The department has been trying to get a new building since 1965.

Agronomy faculty are currently residing in six buildings across campus. Pesek says that having all the faculty in one building will aid in helping the staff and the students become closer knit.

Pesek says the department has been trying to get a new building since 1965.

The five-floor addition is designed mainly for office and research laboratory space, Pesek says. Features of the new building will include a large faculty and graduate student reading room and another for undergraduates. There will also be windows in all faculty offices so that the faculty doesn't feel cooped up, Pesek adds.

The addition will also feature teaching greenhouses attached to the south side of the building.

Pesek calls these greenhouses "state of the art" which will enable students to see plants in their various stages of development. Students will also be able to see tropical plants such as cassava and plantain.

Besides teaching greenhouses, added teaching laboratories will make the addition a first class teaching facility, Pesek says.

The new facilities in the addition should also help to attract more research money to the agronomy department, Pesek says. In the past, the department has not received some research grants because the sponsors felt the department couldn't do an adequate job with the present facilities, he adds.

Pesek notes that the department didn't go after some grants because the department knew it didn't have the facilities to do some kinds of research. For example, Pesek says that in the past the department couldn't do sophisticated tissue-culture tests because the old building didn't have a clean enough environment. The addition, however, was designed with research in mind.

The bond proposal for the addition presented to the Iowa Board of Regents points out that the findings of such research can cover the $24.5 million price tag of the building.

Besides the appropriations bond, money has been donated by friends of agronomy, a group made up of Iowans and agribusinesses. The group has donated about $60,000 for the planning of the addition.

Bids for the foundation work should be going out sometime this month, says Ina Couture, agronomy administrative assistant. Before the foundation of the addition can be laid, however, the Soil Testing Laboratory and greenhouses behind the agronomy building will have to be torn down.

Construction of the replacement greenhouses has already begun in the northeast commuter parking lot. Presently, there are no plans to replace the parking spaces lost in the construction of the greenhouses.

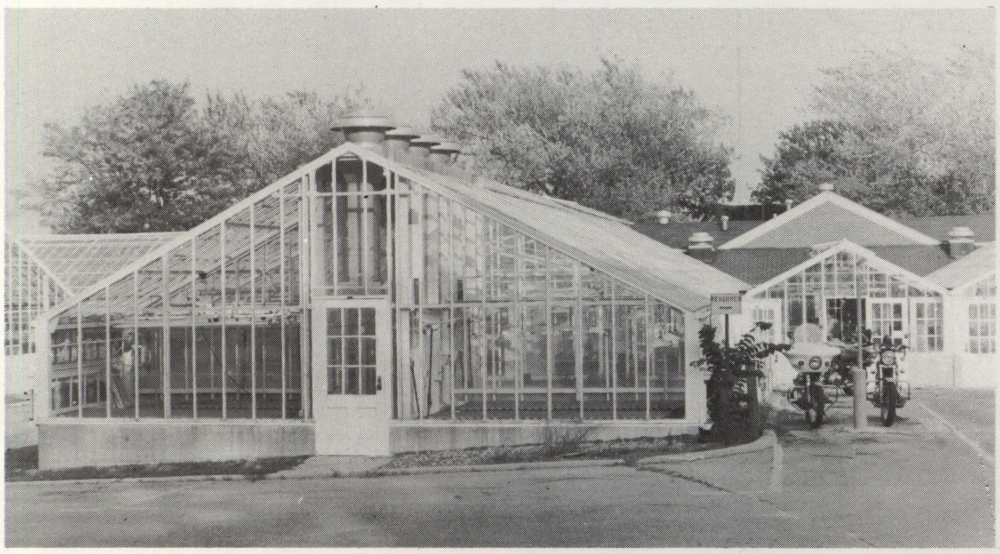
The laboratory for testing soils will be moved into the addition when construction is completed. Until then it will be housed in Old Botany.

The old agronomy building will also undergo some renovations with energy-efficient windows and reorganization of office and classroom space.

When the addition is completed in the fall of 1985 it should be a positive asset to the agronomy department and ISU.

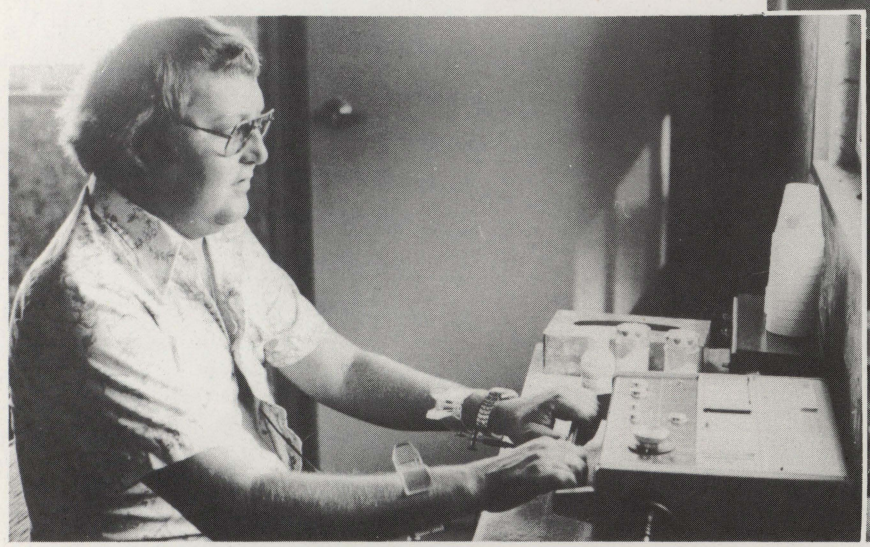
The plant introduction greenhouses are among the buildings that will be torn down to make room for the agronomy building addition.

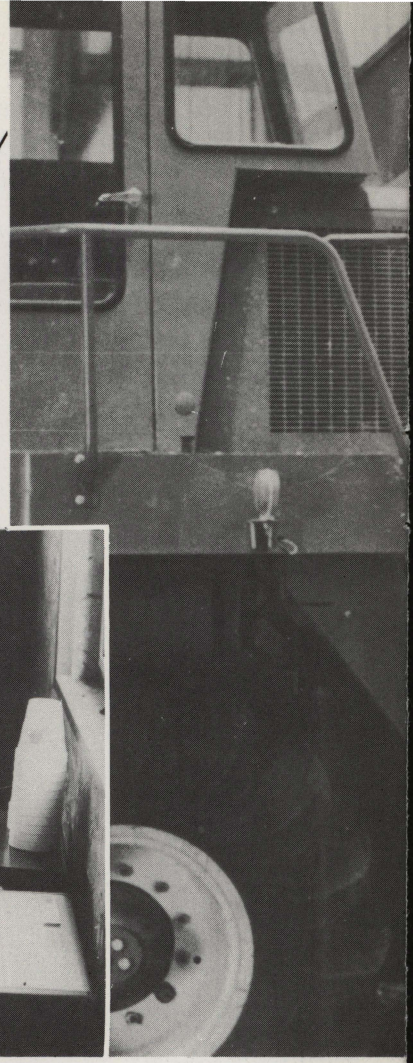
Construction has already begun for the greenhouses needed to replace the ones that will be torn down to make way for the agronomy addition. *Photos by Chris Jorgensen*



Although transplant patient must give up farming,

Farmer Takes Heart





Photos by Jon Thompson.

Denny MacVey, a Rolfe, Iowa, farmer, must check his electrocardiogram daily to make sure his body is not rejecting his new heart.

Cheryl and Denny MacVey will have to rent out their farm and move out of the hog business due to the operation.

by Zita Metzger

Farming operations are the means of living for many Iowans. Because of a medical operation, an Iowa farmer is now alive although he suffered severe heart failure.

Denny MacVey, 34, a farmer from Rolfe, Iowa, is alive today because he had a heart transplant this past year. Denny believes he is the first farmer to have ever had a heart transplant and he is one of only two Iowans to have ever had the operation.

Denny, an Iowa State University graduate with an associate's degree in agriculture, will have to give up farming due to the risk of getting infections from dust and bacteria associated with such crops as corn and because of the risk of injury while working on the farm.

Although Denny will have to give up farming after being on his own for 10 years, he maintains a positive attitude towards his new situation. "I have received so much support from people and have been wished so much success, I don't even think about having any failure," he says.

Denny's health problems started last October. While harvesting, he suffered shortness of breath and couldn't eat properly. A "general slowdown" is what he calls his past condition.

His doctor thought he had bronchitis or a mild form of pneumonia, so he gave Denny antibiotics and cough syrup. The antibiotics bothered his stomach while he was running the combine and the cough syrup made him tired, so he didn't take either medication and got progressively weaker, he says. He then developed severe shortness of breath which lasted through the harvest.

In November, Denny went back to his doctor who gave him another form of the previously prescribed antibiotic and different cough syrup. Denny was told that if he wasn't better in three days to come back. He didn't eat or sleep for five days, he says.

He then had a chest X-ray which showed that his heart was slightly enlarged but it was not considered abnormal because he had been working hard. "Two days later, my heart was more than slightly enlarged and I was recommended to see a cardiologist," Denny says.

The MacVeys then went to St. Joseph's Hospital in Omaha, Neb., where Cheryl, Denny's wife, had received her nurses's training years earlier. After only one hour there, Denny was put on a monitor in the intensive care unit. Denny had irregular heartbeats and got progressively weaker in the next 24 hours and then had conjestive heart failure, says Cheryl, 32, who is a registered nurse at Palo Alto County Hospital in Emmetsburg, Iowa.

Denny was told that he had cardiomyopathy - an enlarged heart - and was told that he could go home and if he did absolutely nothing he would live for six months to

two years or that he could have a heart transplant. For the time being he was put on medication and had fluid taken off his lungs.

Denny says he had mixed emotions about having a heart transplant and at that time wanted to come home. The MacVeys had discussed a heart transplant earlier, but had decided that they could not afford one.

They had not considered their insurance and hadn't considered having the operation performed at a Veteran's Administration hospital, Cheryl says. Denny spent three years in the army during the Vietnam War, so he was eligible to receive a federal grant to finance the surgery.

The only VA hospital that does heart transplants is the one associated with the Medical College of Virginia in Richmond, Va. The doctors in Omaha referred the MacVeys to that hospital.

Denny says he asked all the doctors in Omaha what they thought of his condition and they all told him he had 6 months to 2 years to live with his present condition so he decided to get a second opinion and was flown directly by air ambulance to Richmond.

Once in Virginia, Denny was given physical tests for one month to show that he needed the operation and to prove that his other organs were working adequately enough to make the operation worthwhile, Cheryl says. The cardiologists at the VA hospital agreed that a heart transplant was the only alternative.

While at the hospital, Denny and Cheryl's confidence in the program grew because they could see for themselves that heart transplant patients not only walked into the hospital but also walked out of the hospital.

The hospital had done 20 heart transplants in the past two and a half years and 13 of the 20 patients were still living. The MacVeys also discovered while doing research about heart transplants, that one person in Europe has lived for 14 years after the operation and a person in Richmond has lived for 12 years after the operation.

"We had the misconception that if Denny had the operation, the surgery and recovery period would last one year and then Denny would have up to four years to live," Cheryl says.

Denny qualified for the operation and by that time he says he had no qualms about the surgery. He then received blood transfusions for a month to prepare his body to accept a foreign heart and foreign blood. Each blood transfusion unit had blood from five different donors. "That was a massive amount of antibodies to deal with and my body didn't reject them so it showed I could accept from a wide range of donors," Denny says.

The VA hospital is authorized to do only one heart transplant a month and has limited beds so Denny spent another 30 days waiting for a bed. His name was added to a computer waiting list which connects potential organ recipients in eastern states with organ donors from every large medical center.

Heart transplant patients are not only given medical tests before the operation but also psychological tests to make sure they are capable of handling the stress and to "make sure they're not suicidal," Cheryl says.

Because some past patients have commited suicide after the operation, the hospital makes sure that a patient has someone to support him or her through the operation and recovery.

Cheryl was with Denny through the whole operation and recovery period except for two weeks when Denny's mother and daughter, Wendi, came to Virginia.

Denny's mother, who lives in a house on the same farm as Denny and Cheryl, took care of the three MacVey children, Wendi, 8, and the twins, Matthew and Mark, 5, while Denny was in Richmond and Cheryl's mother took care of them while Denny and Cheryl were in Omaha. Denny and Cheryl say the situation was probably not such an unsettling experience for the children since most of the time they were in their own home with Denny's mother. Neighbors also helped take care of the children.

Not only were the MacVey children taken care of, but the farm was taken care of, too. Plowing and spring planting were done by neighbors. Ted Turner's TV station, WTBS, Atlanta, Ga., is producing a program, *"The Essence of Iowa,"* and clippage of neighbors doing field work will be included in the program which will be aired in December.

The heart transplant took place March 12 at the VA hospital and Denny was back on the farm three months later. "As far as I know, there has never been a farmer who has had a heart transplant, so there was no one to tell me what I could or couldn't do on the farm," he says.

Denny did know right away that he would have to get out of the hog business."Without the hog operation, my farm is less than a one man band," Denny says. He used to finish 2000 hogs a year and farm 240 acres of corn and soybeans. He will not be able to grain farm either, because of the dust and bacteria associated with corn.

Denny has discovered that if he were to farm, he could do more physical things on the farm than what he thought, but due to the risk of injury and infection, he has decided to rent out his land.

One job related to agriculture that Denny hopes to do in the future is sell seed corn. Right now he is receiving Social Security. "I'm not one to do absolutely nothing," he says. "I've been too active."

It will be another year before Denny is physically back to where he was before the operation. "I'm not back to 100 percent, but I can lift 60 pounds, or put in another way, I can lift one of the twins," he says.

In order to get back in shape, Denny reads his electrocardiogram (EKG) at home, exercises and regulates his medication. "One week after surgery, you're on your own," he says.

Denny must take his EKG to make sure his body is not rejecting his new heart. Rejection is the No. 1 killer of heart transplant patients, with pneumonia and upper respiratory problems next in line, Cheryl says. Rejection symptoms may not be noticed since they are similar to signs of the flu or are not apparent. "It's not all cut and dried on how to treat rejection," she says.

Chances of rejection go down after the first year after the operation, and the first 90 days after the operation are the most critical.

If Denny should reject his new heart, "he'll just get another one," the MacVeys say with confidence. Denny is well adjusted and not depressed, his wife says. A positive attitude was stressed at the VA hospital.

Cheryl says the VA helped divert attention through regular recreation such as bingo, movies and bands. "The VA is exceptional in recreation," Denny says. Friendships formed among transplant candidates were also a plus at the hospital. "I got very close to the other candidates which helped a lot mentally and made me aware of problems I might encounter in the future," Denny says.

Few problems have been encountered by Denny and he adds that although he cannot be assured as to how many more years he will live, the quality of his health after the operation has been so good that it has been worthwhile. "If I hadn't had the operation, I would be in a hospital right now," he says.

Cheryl says,"The main thing to do right now is keep Denny's strength up." To build maintenance and endurance, Denny walks 20 minutes a day and lifts weights.

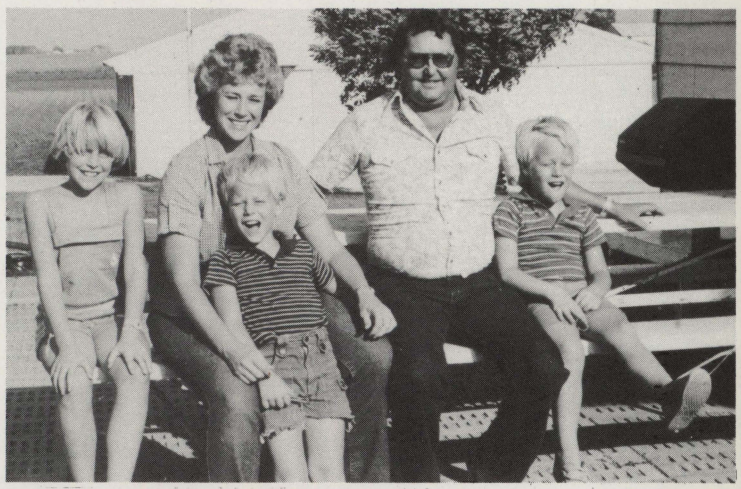
Excercising will also help Denny lose weight that he has gained as a result of taking steroids. Two other main medications that Denny takes are imuran and prednisone which suppress rejection.

Because of the latter two medications, Denny's ability to fight infection is low. "Denny now could get strange infections most people normally wouldn't get," Cheryl says. Other side affects of the medication are softening of the bones and muscles and in some patients cataracts and glaucoma.

If Denny has any problems, he can go to his local doctor but more than likely he would have to be flown to Virginia again to treat the problem, Cheryl says. Denny must go to his local doctor twice a week and have his blood drawn to determine his white blood count since he regulates his own amino suppressant medication. He must also go to a cardiologist at the VA hospital in Des Moines once a month and must go to Richmond once every three months. Denny has been told that he should not wait around if he doesn't feel well.

Besides the "general slowdown" in the fall, Denny hadn't had problems with his heart before. The cause of his coronary muscle disease has not been determined and Cheryl says this is not uncommon.

After being a heart transplant patient, Denny says there is a great need for organ donors. "Almost anyone can be a donor," he says. "No one is too far from a hospital to be an organ donor." Organ donor bodies are treated respectfully, he adds.



Denny is recovering at home with his wife, Cheryl and their three children, Wendi, Matthew and Mark.

Each individual must decide whether he or she will be an organ donor. Anyone can receive a uniform donor card by writing:

National Kidney Foundation of Iowa
8611 Hickman Road
Des Moines, Iowa
50322

If a person should decide later that he or she doesn't want to be a donor they can end the donation contract by tearing up the card since there is no record of the contract. Organ donation is shown by a blue square on the back of a Iowa driver's license.

Organs are usually received from motorcycle and car accident victims who are brain dead. If the victim never decided on whether to be a donor or not, the family can decide for them, Cheryl says. The donor of Denny's heart was a 26-year-old car accident victim from Savannah, Georgia.

Being a nurse, she says doctors and nurses need to play a more active role in telling patients and their families about organ donation. "We don't hear enough about organ transplants to think about organ donation," she says. Doctors and nurses need to think of a tactful way of presenting the question of organ donation to a grieving family, she adds.

Denny says, "I've always wanted to donate my organs, but that has changed some since no one will want a third-hand heart." He still plans on donating his eyes and liver and has always been interested in kidney donation, which he says there is a great need for.

How does Denny feel about having someone else's heart? "It's been such a good one so far that I don't even think about it. It beat so much harder than my old heart that when I first came home I couldn't even sleep," he says. "It's mine now."

Help for Farmers' Offices

These three farm women, Ann Jorgensen, Janice Geiken and Julianne Anderson (left to right) have started a business to help farmers become better office managers.

by Janeen Chamberlain

Farmers are starting to take a closer look at how their records, bookkeeping and filing are organized, a measure that reflects the growing interest in convenient and professionally designed farm offices. Three Iowa farm women who realize the unique needs of farmers have created an office design service called Farm Home Offices.

"An efficient and organized office area is exactly what is required today for a successful and professional farm business," says Ann Jorgensen of Garrison, Iowa, one of the three women who offer a combined package of office management, interior design and computer systems to farmers. "We started this service about two years ago," continues Jorgensen. "People are becoming more frustrated and concerned about their present farm offices and we feel our design service can help make a farmer's work a lot easier."

Joining Jorgensen are Janice Geiken of Vinton and Julianne Anderson of Cedar Rapids. The women became interested in farm office designing because they have had first-hand experience with working in a farm office. "We understand a farmer's language and know their needs," says Geiken, the interior design specialist for the business. "Our service is designed specifically for farmers by farmers. Our customers have unique needs and reasons for wanting a more efficient farm office."

Due to the present economy, farmers are beginning to realize the need for a convenient work space that is attractive, yet relatively inexpensive. Having an efficient office will enable farmers to have more time to make marketing and management decisions; factors that have become increasingly important for the survival of a farm operation.

By combining their own experiences, the three women can contribute unique ideas to help a farmer organize a neat, workable, personalized office. Their design service could be described as being a mail-order business because they work with people mainly through the mail or by phone. After a farmer has shown interest in their business, the women send him a catalog along with a few questionnaire sheets.

Geiken says that these sheets are quite helpful because farmers can sit down and think about what their priorities for an office are, what equipment and furniture they already have to work with and where they would like their businesses to be in five years.

The women prefer practicality to elegance when designing farm offices. Jorgensen says that a farmer needs an office designed especially for one or two people. She adds that their service can adapt office products and design plans to meet individual needs and preferences.

Geiken says, "Farmers know the one or two things that they want, but have trouble deciding what else they need. Our service is designed to give recommendations and suggestions to farmers who have decided they want to invest in an office."

The women have found that most of their office designs have been for farmers that have added on a room to their home. Many farmers, however, have made use of extra space by combining an office with an existing room or creating one from a spare room.

Farmers send the women such things as pictures of a room they want converted to an office, measurements of windows and ideas for the type of office they want. After speaking with the farmer on the telephone for clarification, Geiken graphs a floor plan of the equipment she recommends, taking into consideration the space available and the farmer's suggestions. "Our service assists in the selection and placement of materials according to lighting, heating, electrical and space needs," Geiken says. "We assist in interior decorating as well as with furniture placement."

After recommendations and plans have been made, items are ordered from the Farm Home Office catalog. From there, the farmer receives all the necessary materials, follows the floor plan and arranges his or her own office. Farm Home Offices presently does all its work by mail or telephone, but may need to expand in the future. Making personal visits to farm homes and obtaining retail sales space are possibilities for this specialized business.

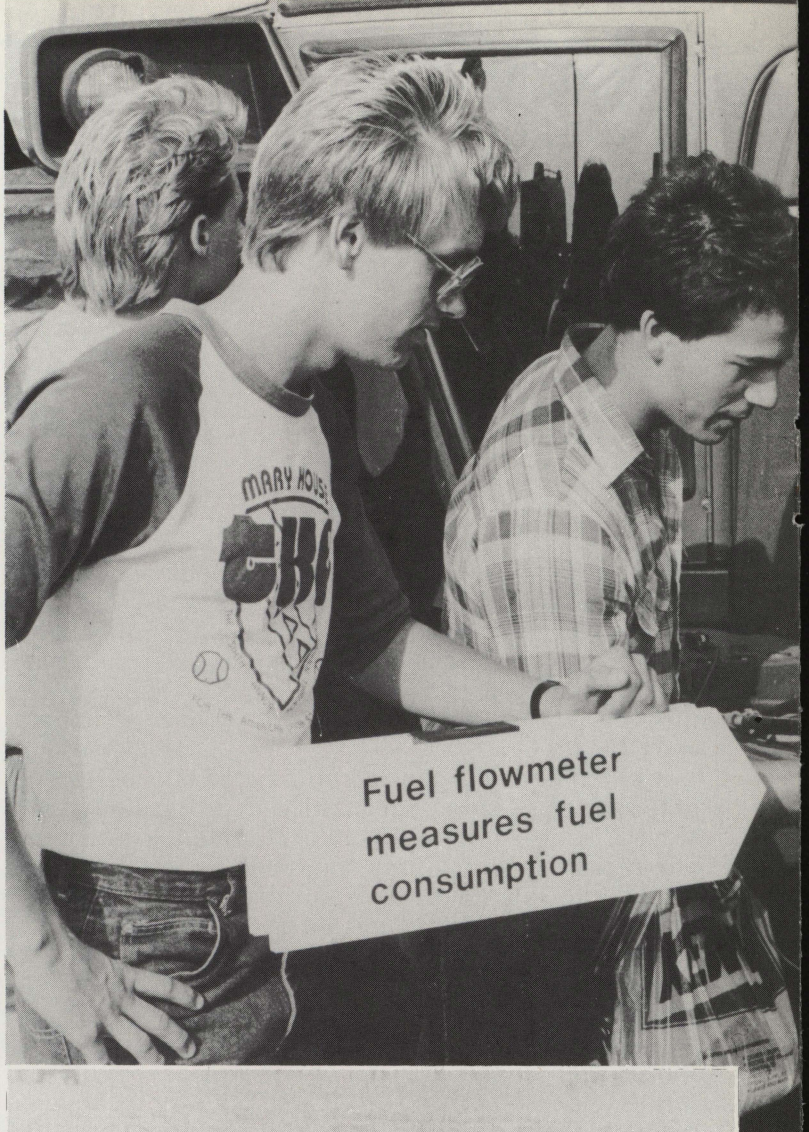
Bob Wiese, a Gladbrook, Iowa, farmer, was a recent client of Farm Home Offices. "We wanted to add an office on to our home so decided to inquire about the women's business," Wiese says. "They designed the office, recommended where to put lights and were very helpful in making decisions." Wiese says that everything was ordered from the Farm Home Offices catalog and felt that their prices were very reasonable. "I trusted the expertise of the three women and found that they clicked together to make it work."

The women have written a booklet *"Putting Paperwork in Its Place,"* which was published by **Wallaces Farmer**. This guide to farm filing was first distributed at the Farm Progress Show where the women promoted their business and gave talks about farm office management and design.

For more information about designing farm offices, write:

Farm Home Offices
P.O. Box 1207
Cedar Rapids, Ia. 52406
(319) 369-9108

Farm Progress '83



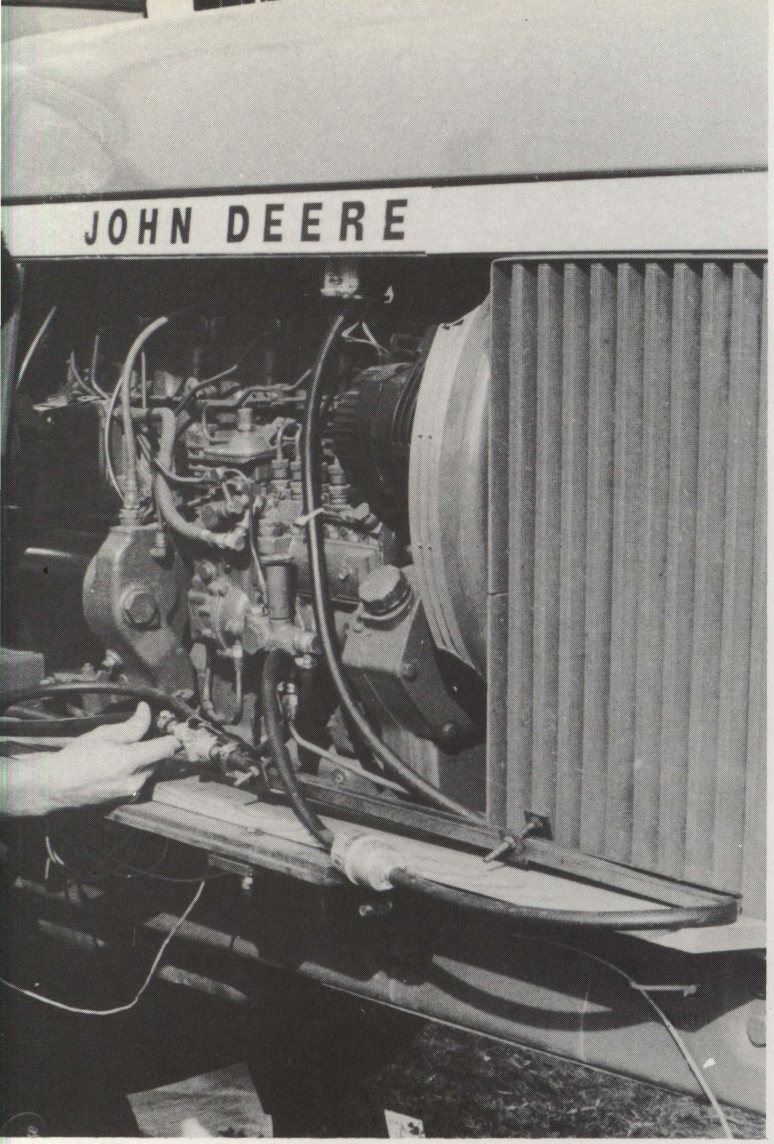
Record breaking crowds and hot weather were major features of the 31st Annual Farm Progress Show which returned to Iowa this September.

For three days an estimated 340,000 farmers, agribusinessmen, students and other lookers-on came to see more than 400 exhibits in the 80 acre "tent city" three miles northeast of Marion.

The exhibits ranged from mega-horsepower four-wheel-drive tractors to office supplies and from delicate computers to rugged chain-saws.

About 300 acres of soybeans and 500 acres of corn were harvested in the field demonstrations. The equipment used in the demonstrations burned about 15,000 gallons of fuel.

The Des Moines Register headlined their story on the festival, which comes to Iowa every three years , *"The 'greatest farm show on Earth' comes back to Iowa."*



Fall 1983

Intensive Land Use: *What is the Price?*

by Brian DeVore

Grain farming today is a big business, and the goal of any business is to reinvest and get bigger, says Arden Campbell, director of the Iowa Crop Improvement Association. This need of grain farmers to turn a bigger profit has led to more specialization in certain row crops, he adds.

In Iowa, for example, there was a two percent increase in the number of farms harvesting specialized row crops such as corn and soybeans between 1977 and 1978, according to an Iowa Department of Agriculture report. This increased specialization in one or two row crops has caused major problems for some of the state's natural resouces.

Minoru Amemiya, Iowa State University extension agronomist, says as farmers increase their specialization in such crops as soybeans, erosion becomes more of a threat.

Reductions in such species as ring-necked pheasants have been directly connected to trends towards specialized grain farming, says Louis Best, ISU animal ecology professor.

Best also says increased agchemical runoff, due to increased row crop production, has affected the state's water resouces in many ways.

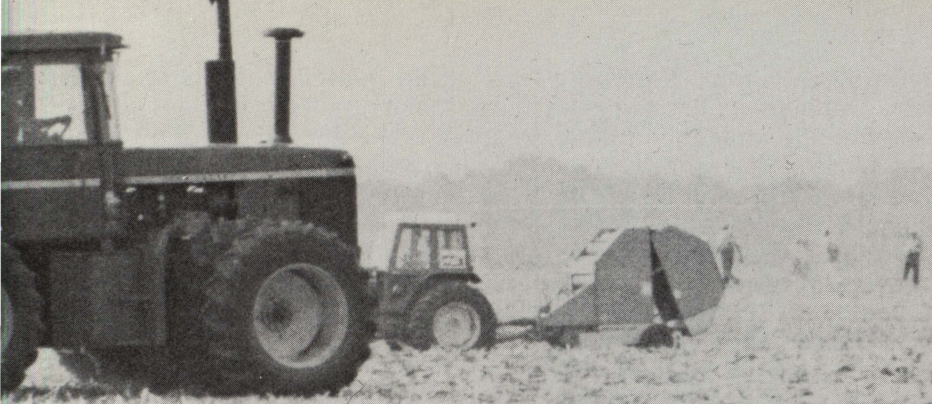
Will this trend towards specializing in certain types of grains continue? Many outside factors such as availability of labor, productivity of the land, population growth and market opportunities determine trends in agriculture. However, it is probably safe to say specialization is increasing with time, says James Whitaker, ISU agricultural history instructor.

While certain crops have always been raised in a specialized row crop manner, the rate of specialization has accelerated in the past 30 years, Whitaker adds.

Campbell says he agrees that specialization in grain farming will increase in the future as the demand to be more efficient increases. In this case, Campbell says efficiency pertains to getting the most production with the least cost in time, equipment and labor. Specialization is more efficient for the grain farmer because it allows him to specialize in the kind of field work he does, in the equipment he needs and buys and also in the way he markets his product.

Soil in the United States is now being carried away at the rate of two billion tons a year, according to a United States Department of Agriculture study on soil erosion. Much of this erosion is caused by the continuous planting of such crops as soybeans, which leave no residue on top of the soil after harvest, Amemiya says. Farmers cannot continue intense specialization much longer without taking into account the increase in soil erosion that will occur, Campbell says.

Both Campbell and Amemiya agree that the problems caused by continuous row cropping of soybeans is not of major concern in Iowa since the state doesn't have the amount of cropland in soybeans that other states, such as Illinois, have. Amemiya says that Iowa probably never will see extensive row cropping of soybeans in the future since it is hard on the soil.



Best says there is one characteristic of specialized row cropping which increases the chance of soil erosion no matter what crop is being raised. The increased productivity which is required to make a specialized grain farm profitable forces many farmers to do more of their field work in the fall to save time in the spring, he says. Fall field work usually includes plowing under valuabe crop residue which is imperative in the protection of topsoil from erosion during the winter months, Best says.

Campbell says crop specialization can cause erosion because many "barriers" such as fence rows and grassy strips of land are eliminated to make room for large fields. These barriers can be very important in slowing down soil erosion caused by wind and water.

Specialized grain farming can also affect the actual fertility of soil over time, Campbell says. He points out that when a farmer specializes in only one or two grain crops, such as corn and soybeans, there isn't much opportunity for rotation between a crop which leaves a lot of of organic residue (corn) and a crop which leaves little residue (soybeans). The result is that a large field may be planted to soybeans year after year with little chance of organic matter being introduced into the soil periodically.

The major known problem with farm chemicals today is their runoff.

Whitaker says when a farmer is unable to rotate organic matter into the soil periodically, he must become more reliant on chemical fertilizers to keep yields up. "When farmers continuously put on artificial fertilizers, they are helping yields in the short run, but the soil is not receiving any 'bulk' organic material to keep it fertile in the future," he says. Lack of 'bulk' organic material is why artificial fertilizer must be added again every planting season, he adds.

Dependency on chemicals in farming has apparently been accelerating in the past few years. The 1980 Census of Agriculture, published by the U.S. Department of Commerce, shows the number of acres of farmland in Iowa which were exposed to commercial fertilizer jumping from 12,778,913 in 1974, to 15,285,328 in 1978. In addition, the census says the amount of acres exposed to herbicides in Iowa increased from 11,923,672 in 1974, to 14,311,950 in 1978. An increased use of insecticides was also shown.

Along with an increase in the use of farm chemicals has come a decrease in the quality of the state's water resources as well as a decrease in the plants and animals that depend on these resources, says Roger Bachman, ISU animal ecology professor and an instructor in limnology (the study of aquatic ecosystems).

In 1974, testing of the fish in the Coralville Reservoir near Iowa City showed that the levels of aldrin, a concentrate used in many pesticides at that time, were dangerously high. Tests of other water systems around the state followed which showed aldrin to be present in very high levels throughout Iowa. Public health authorities were troubled by this since aldrin is a proven carcinogen which accumulates in the tissues of humans. These and other tests finally led officials of the Environmental Protection Agency to ban aldrin in August of 1974.

Bachman says most of the chemicals being used today on Iowa farmland break down easily and quickly so the long term threat to the state's water resources is not as great as it has been in past years, but he points out that with so many new chemicals coming out every year, scientists and EPA officials are kept busy monitoring the effects of farm chemicals.

The major known problem with farm chemicals today is their runoff, he says. Almost all runoff ends up in the ground water sooner or later, Bachman says. Ground water in Iowa contains a high amount of nitrates and when farm chemicals add more nitrates, eutrophication may become a problem, he adds.

Bachman explains that eutrophication is when excess nutrients, such as nitrates, are introduced into a water system, causing an abnormally high rate of aquatic plant growth. This increased plant growth can accelerate to the point where the pond, lake or other water system is absent of all animal life because the excessive plant growth robs the system of all the available oxygen.

Soil runoff and erosion can also deplete the quality of water, says

Amemiya. Runoff and erosion can cause ponds and streams to be clouded by silt which reduces the amount of sunlight that penetrates the water and, in turn, the plant and animal growth which depends on certain amounts of sunlight.

The subject of reductions in the quantity and quality of animal life brings up the third natural resource that is affected by the increase in specialized grain farming - wildlife. "Everyone knows that wildlife needs food, water and cover," Best says, "but what many people do not understand is that wildlife also need good interspersion (the way food and cover are position-related)."

Best explains that big fields with clean edges are characteristic of specialized grain farming and do not provide the cover that wildlife need to survive. Most Iowa cropland has plenty of food for feeding wildlife, but hardly any cover for protection, he says. As a result, wildlife depend on such areas as fence rows, grassy waterways and other "odd" acres to survive in agricultural areas. With small, diversified fields giving away to large, more uniform fields, fence rows are few and far between and "odd" acres are almost eliminated. Therefore, wildlife must travel farther and farther from the safety of cover to feed.

Best also points out that the practice of fall plowing can be disastrous for certain species of wildlife. Not only does fall plowing eliminate valuable wildlife cover which is especially needed during the winter, but it also eliminates most of the crop residue that wildlife feed on during the cold months, he says.

An example of the negative effects specialized grain farming can have on wildlife is shown by the steady decline in ring-necked pheasant numbers as shown by the annual population census by the Iowa Conservation Commission. Since 1940, the amount of potential nesting cover has gone down steadily causing a steady decline in pheasant populations. The study showed that the steady declines in nesting cover and pheasant populations were directly correlated with the increased percentage of Iowa farmland being put into continuous row crops.

The conclusion of the Commission study says, "The dramatic shift from rotation farming with hay, oats and row crops to an almost strictly row crop agriculture has seriously reduced the available nesting areas."

What are the alternatives? Is there any way that Iowa can have grain production without sacrificing its natural resources at the same time?

Best says Iowa's natural resources do not have to be sacrificed for high grain production if different methods of raising grain are adopted. He points out that it would be better for the land in general if farmers could go back to more diversified farming.

The best part about no-till or minimum-till farming is that yields are comparable to conventional tillage yields.

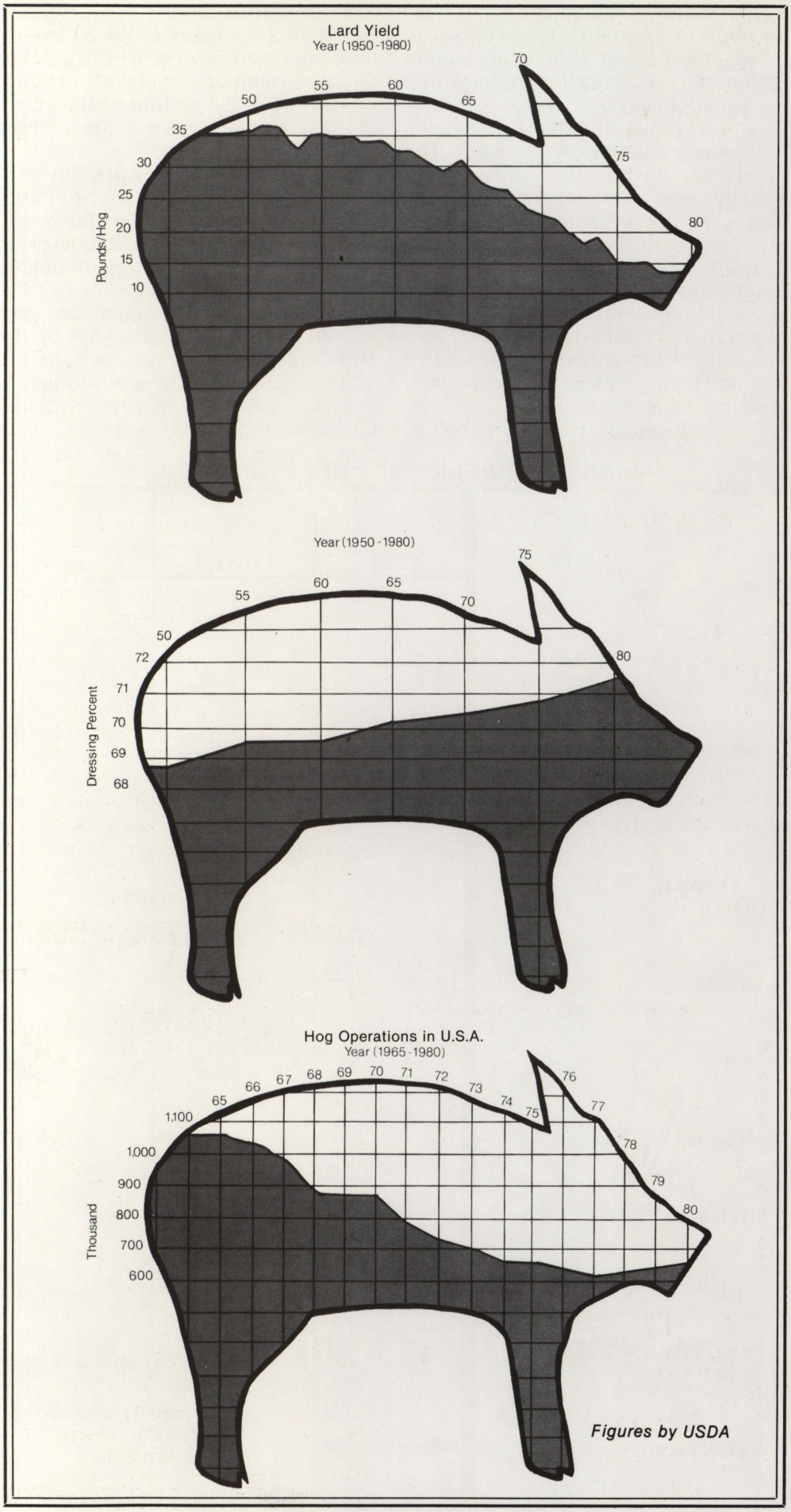
In the long run, diversified farming is actually more economical since it gives the land a chance to rejuvenate itself, Best says, but in the short run it is more profitable to raise grain quickly and in large volumes due to high demands for grain, high operating costs and high land prices. The small, diversified grain and livestock farm will probably never be popular with serious farmers again, Best adds.

But there is an alternative which not only helps save soil, water and wildlife, but also makes it possible for the farmer to maintain high grain yields. Best says this alternative is no-till or minimum-till farming. He says that a no-till experiment is being carried on now in Adair County by the Iowa State Experiment Station in conjunction with the Soil Conservation Service and the Iowa Conservation Commission.

Best says so far the study has shown no-till to cut down considerably on erosion and residue runoff while it leaves enough organic material in the soil to insure fertility in the future. Wildlife also benefits because a large amount of crop residue is left on top of the ground for food and cover.

The best part about no-till or minimum-till farming is that yields are comparable to convential tillage yields, Best adds. Since farmers hesitate to accept a new farming practice unless it is economically feasible, comparable yield will be a positive factor, Best says.

Before a practice such as no-till will be attempted by a large number of farmers, the philosophy towards the "appearence" of fields must be changed, he adds. Many farmers are under the impression that leaving residue on top of the ground or letting brush grow up along their fences is a bad way to farm, he says. "A lot of it is just plain peer pressure," he says. If it would be possible to get this "peer pressure" to work so that conservation would be the "in" thing to do, techniques such as no-till would work, Best says.



Figures by USDA

Positive Attitude Promoted by Pork Producers

by Sharon Sievers

The National Pork Producers Council (NPPC) is working to get Americans 'leaning on pork' and thus enhance the producers' opportunity for profit.

Larry Heidebrecht, Director of Industry Relations for the NPPC, says that the main thrust of NPPC's activities is directed toward education, research and promotion.

At a time when Americans are becoming more concerned about their health and diet, the NPPC hopes to counter myths that pork has to be overcooked, is fattening and is full of cholesterol.

Heidebrecht says the lively jingle adopted by the NPPC, "It's time to get lean America, it's time to start eating more pork," has been an effective theme.

In 1980 an independent research firm conducted a telephone survey for the NPPC. The results of the survey indicated that 40 percent of the U.S. population ate little or no pork. Many of the people surveyed indicated that they believe pork to be high in calories and cholesterol.

Two subsequent surveys, conducted in 1981 and 1982 by the same research firm, showed a shift in consumer attitudes. In 1982, 36 percent of the population ate little or no pork while 64 percent ate pork regularly. Heidebrecht says the four percent change represented nine million new pork users.

To achieve its success, the NPPC has relied heavily on the individual pork producer and will continue to do so, Heidebrecht says.

In the late 1940's and early 1950's, swine production was a profitable business. The pork produced was fat but because pork sold with good profits, producers weren't concerned with improving the quality of pork.

During the middle 1950's pork consumption per capita began to decrease. Consumers were turning away from fat pork and were buying more beef. During the period between 1960-1966, 39 percent of all pork producers left the business.

In 1954, when it first became apparent that pork consumption was declining, the pork industry started an organization called the National Pork Growers Council.

In May of 1966 industry leaders from a dozen midwestern states were contacted and encouraged to attend a "get ready" meeting. Ninety people attended the first meeting, held in Moline, Ill. These men contributed about $40,000 to a " get ready fund" and hired a leader.

The conclusion reached at a second meeting, held in early 1967, was that one-third of the nation's producers were needed to launch a checkoff program. The checkoff program was voluntary for all hog producers and consisted of collecting a nickle on each pig sold by individual producers.

A trial run of the checkoff program was conducted in two Illinois counties and two eastern Iowa counties in the fall of 1967. 85 percent of the hogs were checked off.

The national checkoff program was initiated in January of 1968. Although only $17,500 was collected during the first month, $40,000 was collected every month after that for the rest of the year. The checkoff was increased to 10 cents per head in the 1970's. The checkoff now stands at 20 cents per head on market hogs and 10 cents per head on feeder pigs because of inflation and the increased services of the NPPC.

Membership increased from 7,000 in 1967 to approximately 110,000 in 1982, making the NPPC the largest commodity organization in the world, Heidebrecht says.

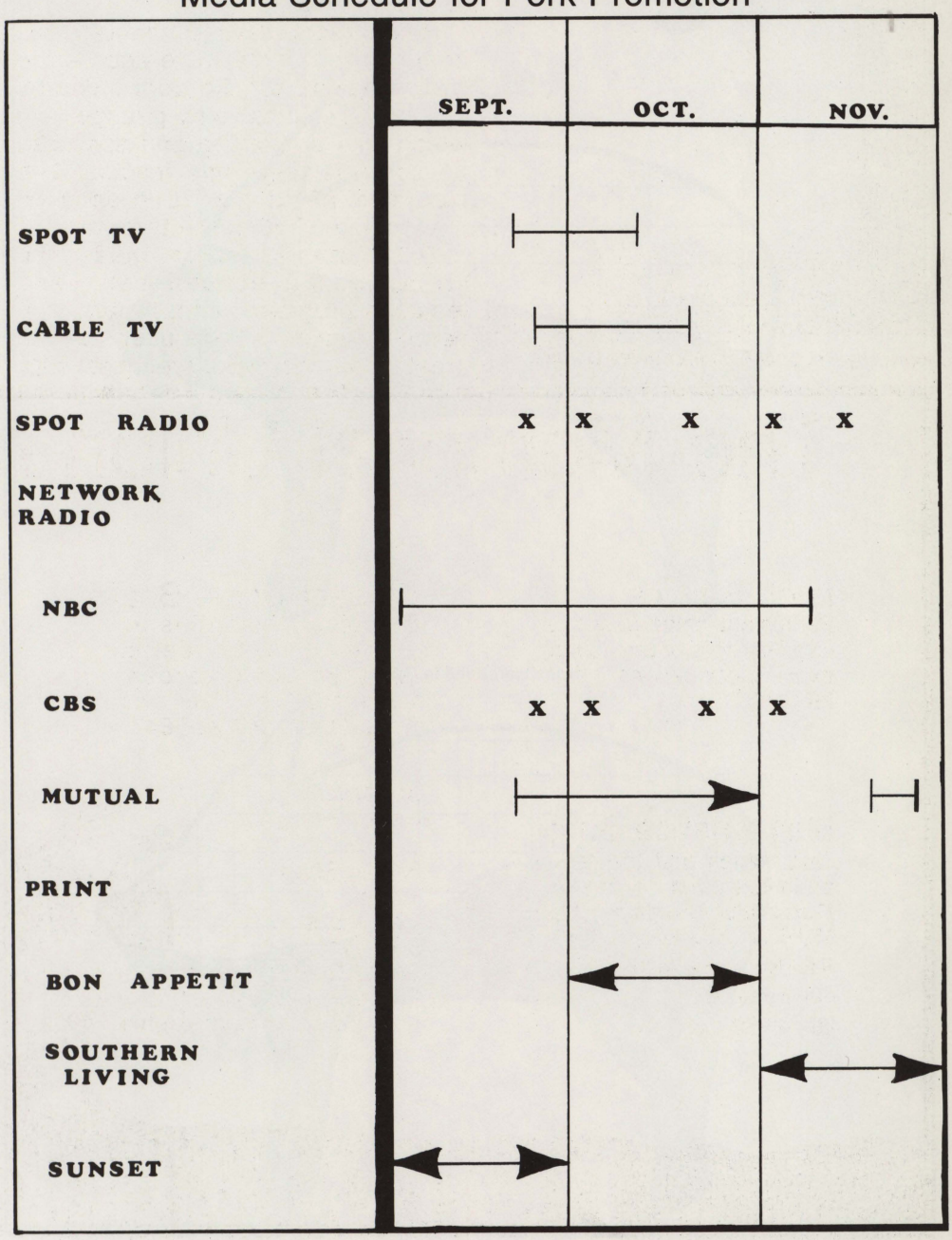
The NPPC is directed by the pork producers themselves, he says. The producer can join the NPPC at the county level and pay county dues. Each county organization elects a district representative, and each district organization elects a state representative. The different state associations elect a representative to the National Board of Directors. From these board members, an executive committee, president and vice president are chosen.

The sole support of the NPPC is through the checkoff program, Heidebrecht says. Of the 38 states that take part in the NPPC, 29 are strictly voluntary checkoff states, including Iowa. Just under 60 percent of these states' hogs are checked off annually.

Nine of the 38 states are run by a mandatory legislative checkoff program. In these states, the NPPC guarantees refunds to those who want their money back, Heidebrecht says.

Of the 20 cents collected per market hog, 12 cents are kept by the NPPC, 4 cents are returned to the state where the pig was produced, and 4 cents go to the National Livestock and Meat Board.

Media Schedule for Pork Promotion



Of the 10 cents collected per feeder pig, 6 cents are kept by the state and 4 cents pass to the National office.

Heidebrecht says the largest portion of the money (68.4 percent) generated by the checkoff program goes to promote activities designed to create a better demand for pork.

The NPPC's promotional song, "America, You're Leaning On Pork," can be heard on spot TV, spot radio and national radio. The NPPC is also running advertisements in magazines emphasing the nutritious aspects of pork. The NPPC also encourages retailers to promote pork by displaying posters provided by the council.

12.4 percent of the checkoff funds are invested in pork research. Research projects are funded in seven major categories in which pig improvement and quality is stressed, Heidebrecht says.

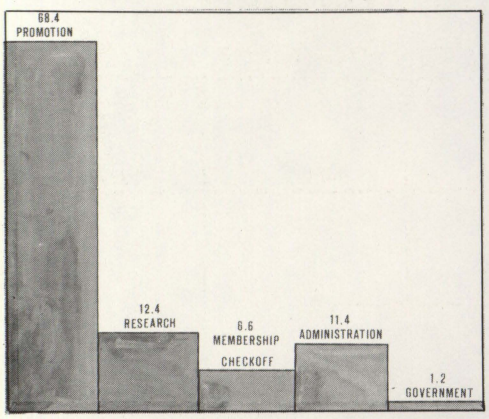
The checkoff-funded research helped develop restructured pork products which are being introduced in fast food restaurants and supermarkets nationwide, he adds.

Basic research is being aimed in the area of human health and nutrition through the National Livestock and Meat Board, which also receives a portion of the checkoff funds.

Heidebrecht says producers will continue to set the pace and be the policy makers for the pork industry. The NPPC also has a long range plan which was authorized and approved by pork members and leaders. The main goal of the plan is to enhance the producers' opportunity for profit.

This plan will help guide the promotional, educational, and research programs, and, in turn, will benefit the pork producer to the greatest degree, Heidebrecht says. ◻

Pork Checkoff Fund Distribution



Figures by National Pork Producers Council

The Number's Up to Stop Hog Thefts

by Janeen Chamberlain

Iowa farm and law enforcement leaders have announced a new pig identification program which they say will greatly aid in the prevention and prosecution of swine thefts.

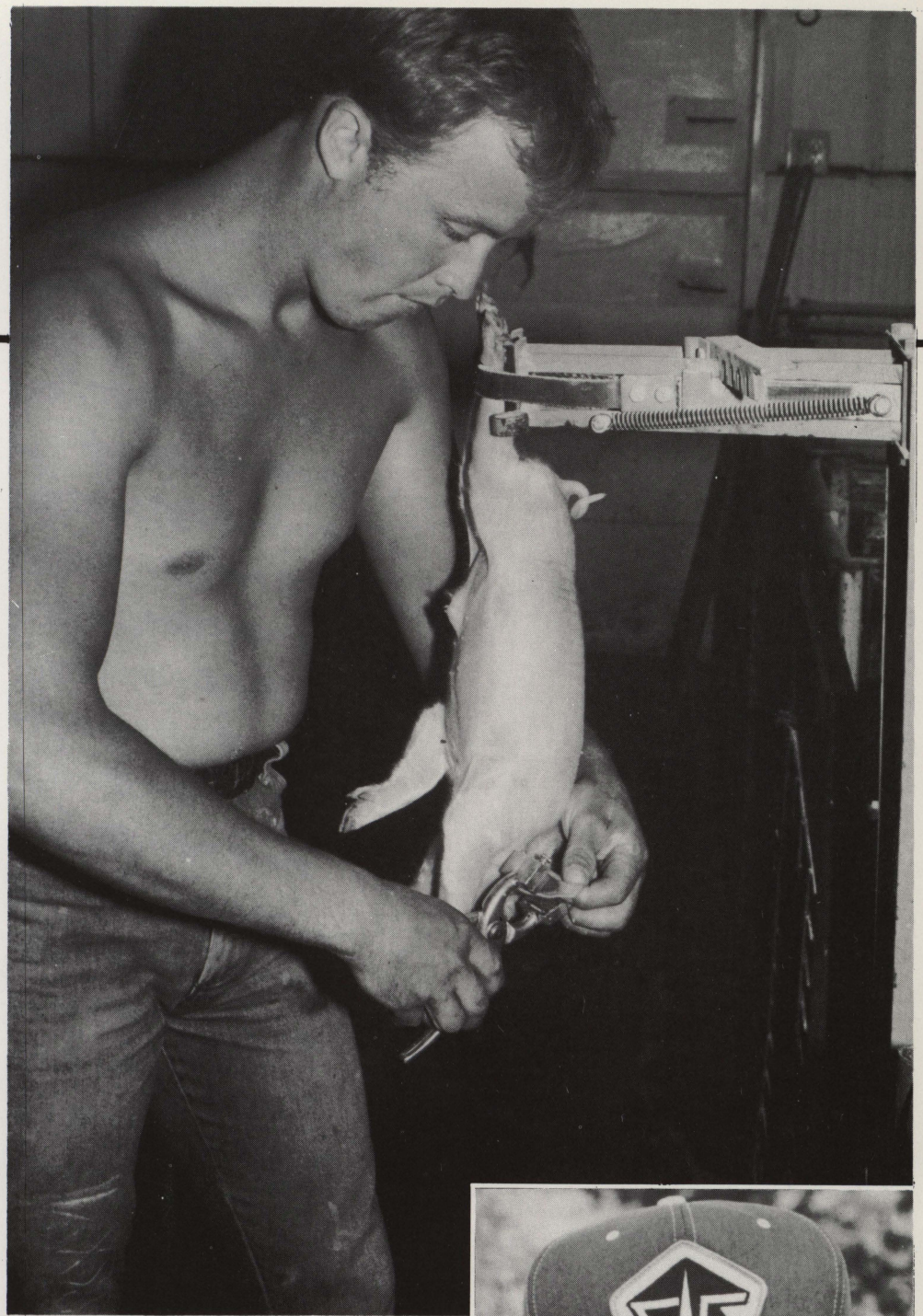
In addition to equipment, grain and household items, farm animals have become favorite targets of thieves. To combat the theft problem, the "Herd I.D. Program" was added to the already existing Farm Bureau Crime Prevention Program to help deter swine thefts and to provide positive, legal proof of ownership.

W.R. Rasty, a Lohrville, Iowa, pork producer, and Chuck Rutenbeck, investigator for the Iowa Attorney General's farm division, developed the ear tattooing system for hog farmers. The system represents the first use in the United States of the national crime identification number system for protecting livestock.

"I began thinking of ways to prevent livestock crime and hit on the idea of applying permanent tattoos to pigs' ears," says Rasty. "In addition to crime prevention, it also provides positive herd identification to use in areas such as management."

Iowa Attorney General Thomas Miller says, "Because this program will give law officers an effective way to trace livestock ownership, it will also serve as a powerful deterrent to discourage thefts from occurring in the first place."

Hog producers will be assigned their own 10-digit number by local sheriff's departments. The farmer's number, which is registered nationally, cannot be duplicated or used by anyone else, thus enabling the farmer to use this same number for machinery, home appliances and grain identification. The program is recognized by law enforcement officials everywhere in the United States.

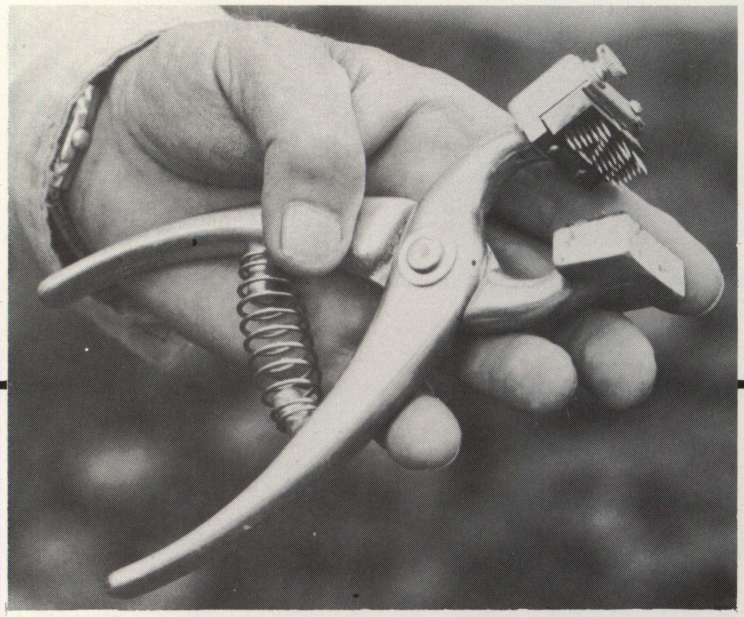


Rasty's son, Scott, is pictured here on their farm tatooing pigs.

W.R. Rasty, pork producer, helped develop the idea of tatooing pigs for identification.

Farm Bureau President Dean Kleckner says his organization has long been involved in promoting the programs of personal property identification that deter theft. "We believe the programs have been successful and are happy that a system has been developed for use with baby pigs," he says.

"Theft in rural areas is on the increase," says Kleckner. "It is a matter



The light weight tatoo instrument is manufactured by Stone Manufacturing Company of Kansas City, Missouri.

Photos by the Iowa Farm Bureau.

of record that identification is a deterrent. I don't favor making pig tattoos mandatory, but I think that it is one more positive step a farmer can take to protect his property and to make it more difficult for someone to profit from theft."

Don Gingerich, past president of the Iowa Pork Producers, noted that pig production is a $2.5 billion a year business in Iowa. "There are 50,000 farmers producing 22 million pigs a year in Iowa," he says. "I think it is very important that this cooperative, voluntary program is now in place for producers who want to take advantage of it. It is inexpensive, it doesn't take much time, and it is a uniform solution to fight the problem of theft."

The individual I.D. number is composed of 10 characters. The number tells the state and county in which the farmer lives as well as the first letter of the farmer's last name. For example, if a farmer's name were John A. Doe of Fairfield, Iowa, the number could be IA0510306D. The IA stands for Iowa, 051 for Jefferson County, and 0306D indicates the farmer is the 306th person in Jefferson County who's last name begins with "D."

"The tattoo consists of two rows. The top row has the state and county letters and the bottom row will be the individual's personal herd I.D. number," Rasty says. He explains that the best time to apply the tattoo is between birth and weaning. The tattoo is 3/8 inches tall at the time of application and grows with the pig's ear to 1 and 7/8 inches tall at slaughter.

Stone Manufacturing Company of Kansas City, Mo., is making the specially constructed light-weight tattoo instrument. "Each producer will have a custom-made, registered tattoo needle block supplied with this tattoo instrument," says Rasty. "It is virtually impossible for a tattoo applied with these pliers to be duplicated by thieves."

Rasty explains that the process of tattooing takes only about 10 seconds per pig and is done routinely with other chores such as tail docking or teeth clipping. To apply the tattoo, a farmer must spread the special green tattoo paste on the outside of the pig's right ear with a toothbrush. The hog producer then pierces the ear with the tattoo instrument and rubs the paste into the perforations.

Rasty, who has experimented extensively with the tattooing system, says that he has received inquiries from coast to coast and border to border. "We hope the idea will catch on around the country and be expanded to other forms of livestock as well." a

Officials have offered farmers the following instructions for participating in the program:

- Obtain a personal I.D. number from your county sheriff, if you don't already have one.

- Order your pig I.D. tattoo kit. Order forms are available from offices of the Farm Bureau and Pork Producers or a producer may write : Crime Prevention Division, 5400 University Ave., West Des Moines, Ia. 50265, (515) 225-5424.

- Purchase the kit which costs $45 and includes a tattoo instrument, green dye paste, instructions, and a large, metal reflective crime prevention sign.

- Reorder supplies directly from Stone Manufacturing Co., 1212 Kansas Ave., Kansas City, Mo. 64027, (816) 231-4020.

Swaim: A Sheepish Artist

Jeanne Swaim proudly displays her stained glass barn window featuring a Suffolk sheep.

By Karen Steimel

It all began six years ago when a 4-H livestock project prompted family interest in sheep. It has since enabled Iowa native Jeanne Swaim to become a sheep artistry entrepreneur.

David and Jeanne Swaim, of Swaim Farms of Drakesville, got their start in the sheep business in August 1977, when daughter Stephanie, wanted to exhibit a livestock entry at the Davis County Fair.

At the time, Jeanne was handpainting floral designs on china plates, after taking her first lesson in china painting two years before. When the family established their purebred Suffolk flock in 1977, it seemed just natural for Jeanne to develop a new design on her handpainted china—sheep scenes.

"Painting sheep is something I developed on my own," she says. "I was tired of painting those other things and I lost interest. So, now I concentrate on painting sheep, since it's the family's lifestyle."

As a housewife, mother of two children and sheep producer, she has indeed created some practical uses for her sheep-related crafts.

Some of her sheep artwork during the last seven years has included: belt buckles, plate-sized china wallhangings picturing a ram and his pedigree, cups, saucers, lamps, thimbles, stickpins, bracelets, flags and signs.

For the past three years, Swaim has sold her items through Mid-States Wool Growers, in South Hutchinson, Kan.

According to Swaim, the sheep belt buckle is her most popular item. The Suffolk buckle is her main seller, which might be expected, since Iowa has nearly 8,000 head of registered Suffolk sheep, more than any other state. She also paints other breeds of sheep, and even illustrates the art of shearing sheep in her work. She paints about 75 belt buckles to be sold, in addition to about 20 she makes for gifts, each year.

When a producer buys sheep from Swaim Farms, the young people either receive a belt buckle of their choice, a cup or a subscription to a sheep magazine as a gift, she says.

Her most recent project was painting a Suffolk sheep on a lightweight canvas flag. Currently, it waves under the U.S. flag on the pole located on the Swaim's 120-acre homestead.

Swaim's talents as an artist are put to use on all types of materials.

"I love to work with stained glass," the 40-year old says. "One of the glasses of a four-part window pane of our barn was broken, so instead of replacing that pane, I just filled it up with a stained glass picture of a little Suffolk," she says.

Suffolks are pictured on holiday gifts, too. A year ago, Swaim designed Easter eggs with black lambs on them. Like many holiday traditions, another member of the Swaim family takes part in Jeanne's work.

"Sometimes, my daughter helps me paint," she says. "Stephanie does a little of the quill pen work, the basic outline and features."

But, Jeanne isn't the only family member with an interest in sheep. The Swaim sheep operation is quite a family affair, as husband David has raised sheep most of his life while growing up in rural Drakesville. Swaim Farms were honored as "Iowa Master Lamb Producers" in December 1982, for their outstanding efforts in the Adult Purebred Division.

The Swaims earned recognition in the program sponsored by the Iowa Department of Agriculture, Iowa State University's Cooperative Extension Service and the Sheep Producers Association. The award was based on production practices, management skills and service to the sheep industry in their respective Purebred Division.

Another family member, Stephanie, 17, was named the 1983 Iowa 4-H sheep project winner on June 8. Younger brother, Michael, 11, also participates in sheep shows and sales throughout the Midwest with his family.

Sheep scenes continue to be a popular design on Jeanne Swaim's handpainted china. She has featured sheep in her artwork since 1977.

Jeanne became involved with another aspect of the sheep industry, when the family initiated their registered Suffolk flock—working with wool. Jeanne spins, dyes and weaves wool from her own Karakul flock.

Jeanne entrepreneured this venture too.

"I learned on my own," she says. "David raises Suffolks, while I raise Karakuls basically for the wool."

Daughter Stephanie and Jeanne are a working partnership. The twosome are called "The Davis County Wool Factory." The weaving and some spinning are done by Stephanie.

In preparing a sheep's fleece for spinning, Swaim uses shampoo and creme rinse bought from a supermarket to clean it. Then she allows it to dry for one week. Next, she cards the wool out to help straighten out the fibers. This helps to open up the fleece, thus getting rid of dirt particles and snarls before the sheep are shorn. It makes it easier to shear and spin, she says.

Swaim says the effort pays off because once the sheep are shorn and the fleece is spun, the results are evident.

"It just makes beautiful yarn," she says. "It still has a lanolin feel and it smells a little woolly but, it isn't offensive."

This year, Jeanne has been involved with the Make-It-Yourself-With-Wool contest, serving as Eighth District Director. Two years ago, Jeanne gave spinning lessons while conducting a two-day art camp at Camp Arrowhead in Ottumwa, Iowa. The pair have administered numerous "Spinning and Weaving with Davis County Wool" demonstrations at art festivals, fairs and meetings throughout the state.

A hat kit consisting of one black and one white skein of wool yarn, plus an instruction sheet is "The Wool Factory's" biggest seller. Some other items sold are men's neck scarves, shawls and hats.

"We do sell more skeins of yarn than actual spun woolen items," Swaim said.

"The Wool Factory" made its first appearance at the 1983 Iowa State Fair, in Des Moines, August 20, in the Wool Booth located in the Agriculture Building. Stephanie had previously spun wool at the fair as part of a 4-H work demonstration, however this was Jeanne's first year.

"I prefer to work with wool," Jeanne says. "The wool is real relaxing, while painting tends to be pressuring. Sometimes I put my painting off until the last possible minute. I usually get into my painting when the kids go back to school."

Another family member appeared at the state fair this year. Charlie, older brother of David, who was the technical advisor in the production the ABC-TV miniseries *"The Thorn Birds"*, demonstrated sheep shearing in the Varied Industries Building.

Last year, David conducted a shearing demonstration as part of a wool promotion at the state fair.

"We're very interested in sheep," Jeanne says. "If people contact us to give a demonstration, we usually can work something out if it is near us. It's a promotion of our sheep, and for the sheep and wool producer. Once we hit on the sheep, all of these other activities fell into place."

"Everything that I do, has come to me as a result of sheep," she says. "I enjoy it all." ◘

Photos by Kathy Krafka, director of sheep division, Iowa Department of Agriculture.

A Flowing Development in Grain Handling

by Mike Reinert

Using a grain leg to transfer grain from one bin to another can be time consuming. Pneumatic conveyor systems are being used in conjunction with augers to make grain handling more efficient.

The first pneumatic system was patented in 1866, says Carl Bern, Iowa State University agricultural engineering professor. Pneumatic conveyors were first used to move light materials in factories and to clean the holds of ships.

Grain salvage companies began to use them 10 to 12 years ago to recover grain that had been spilled in train derailments. Bern says the pneumatics have been popular with wheat producers for the past 15 years, but they have only become popular with Iowa grain farmers in the past three to five years.

The concept is gaining popularity.

There are several types of pneumatic systems on the market today. The conventional conveyor operates on a vacuum-pressure principle, so grain from the storage facility is conveyed into the machine with a negative-sucking air flow presssure and out of the system with a positive-pushing pressure.

The conventional pneumatic conveyor consists of a suction pipeline, a large fan or blower, an air lock to prevent damage to the fan by flying grain and two cyclone cylinders.

The air-grain mixture is drawn through a suction pipeline to the first cyclone cylinder where it is separated. The grain falls to the bottom of the cylinder while the air is drawn into the blower. The air is then pushed through the air lock which moves the grain from the bottom of the first cylinder. The mixture proceeds from there to the second cylinder and out of the system.

Systems which have been developed over the past five to six years have similar designs to the conventional system. However, the systems use a positive displacement pump (PDP) instead of a blower to generate air flow.

A PDP consists of two rotors with interlocking gear teeth. The rotors move a given volume of air per rotation that flows through the pump. This enables the PDP to maintain a constant volume of air flow per rotation at any power-take-off (pto) speed. The volume of air flow per rotation generated by the fan in a conventional system increases with pto speed.

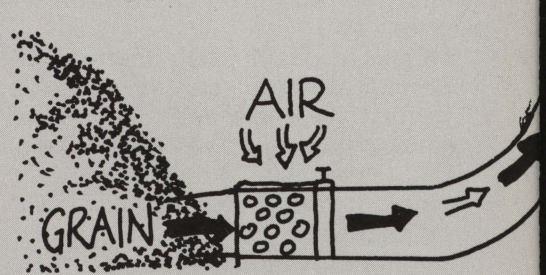
PDP systems are available as combination vacuum pressure and pressure-only systems says Ted Christianson, president of Handelair Sytems in Blomkest, Minn.

Pressure-only systems would be most useful in an operation where grain is fed into the PDP from a truck or other gravity flow mechanism that doesn't require suction pressure, Christianson says.

"When it comes to convenience in grain handling, you trade off a low investment cost for a high operator's cost with pneumatic systems,"Bern says. He adds this means it would be impractical to use a pneumatic conveyor to empty large bins if operator's cost become too high.

Because pneumatic systems generate a high-speed air flow to transport grain, they require nearly three times the pto horsepower that an auger would need to move equal amounts of grain in the same length of time, Bern says.

He say he knows of no published studies indicating the horsepower requirement at which using a pneumatic system full time would become impractical, but recommends that the system be powered by no larger than a 70-100 pto horsepower tractor to keep energy costs at an acceptable level.



Prices of pneumatic conveying systems have risen with the machines' popularity. Conventional systems rated at about 1,800 and 2,800 bushels per hour cost about $13,300 and $17,000 respectively, while PDP pressure-vacuum and pressure-only combinations rated at 1,500 to 3,500 bushels per hour cost roughly $2,700 to $20,000. A grain producer could expect to pay $7,000 to $13,000 for a pressure-only systems of similar capacities, Christianson says.

Most farmers don't know about the efficiencies of pneumatic conveying.

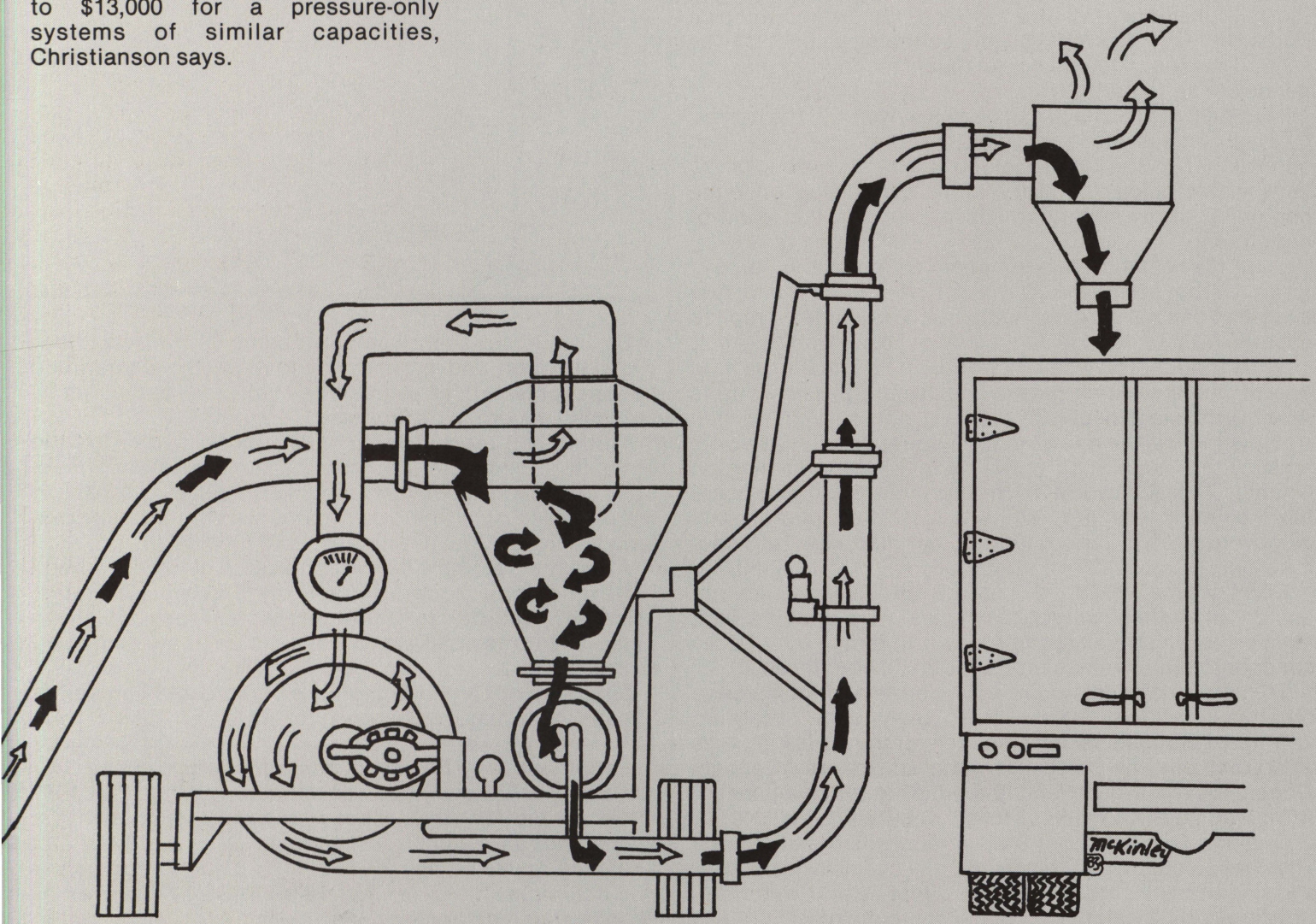
Features such as smaller, less expensive suction pipeline, reduced cost for installing pipelines in storage facilities, greater operator convenience and virtually dust-free grain handling tend to encourage sales, he explains. "Pneumatics offer more versatility for the investment (than augers)."

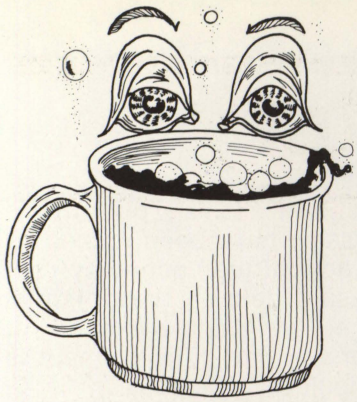
Flexible suction pipes make pneumatic systems ideal for emptying bins that are hard to reach with augers. "It takes power to do it, but it can be done," Bern says.

Breakage will occur as kernels travel through the pipelines, but usually no more than that which an auger would cause, Bern adds., "Damage is highly dependant on management. If you maintain too high of an (air) velocity through the system, you can damage the grain."

Christianson says pneumatic conveyor sales have been rocked by the poor agricultural economy, but are increasing despite the potential for damaged grain and the need for greater horsepower. "The concept is gaining popularity," he adds.

"Farmers in the past have said that a pneumatic conveyor is something you use to clean out your bin. Most farmers don't know about the efficiences of pneumatic conveying." ◘





Over the Brew

By Melissa Mosley

Last spring I interviewed for the research editor position in the **Iowa Agriculturist**. I guess I wasn't too surprised when the editors said they expected me to write agricultural articles.

Perhaps they were a little startled when I informed them that my expertise was not in agriculture. Since I grew up as a city girl, I decided I would have some farm life "research" to do this summer.

Luckily, my aunt and uncle are Wisconsin dairy farmers, so I wasn't too embarrassed when I asked my uncle stupid questions. The highlight of my visit to their farm was when my uncle was showing me the barn where he milks his cows.

When I noticed all the cows lining up at the troughs, I asked him, "Don't your hands get sore from milking all these cows?" He burst out into laughter while pointing at the milk machines. With a red face, I answered my own question, "Oh, I thought you milked them by hand." It was a good lesson. I learned how much technology has expanded in agriculture.

My uncle did let me pet the cows. I even fed the calves. Okay, I confess that I refused to scoop cow do-do and spent most of the time cooking in the kitchen with my aunt. I did enjoy the dairy farm, but it was only the beginning of my summer's adventures into the world of agriculture.

Even my romance this summer led me to the "piggy" farm. My boyfriend asked me if I wanted to go to Ainsworth to see his parents' hog farm. "Of course." I replied eagerly. "Oh, I love pigs and the farm. I can't wait."

And I thought to myself, "I wonder if he'll make me hold one of those squirmy pigs?...and...where in the world is Ainsworth?...Is it in Iowa?"

Now I know the answers to my questions. Ainsworth, Iowa, with a population of 547, is located in Washington County. The Ainsworth farm was another inspirational high point in my life. While I was there, I not only discovered how a farm operates, but also how to hold a baby pig.

Don't get me wrong. I'm a nature nut. I love to hike, run and do all kinds of outdoor activities. As a matter a fact, as soon as we arrived to the Ainsworth farm, I opened my car door to stretch and smell some fresh country air.

To my dismay, just as I lifted my arms and took a deep breath, I smelt that "strong, fresh, piggy odor." Learning very fast, I plugged my nose and ran for the house.

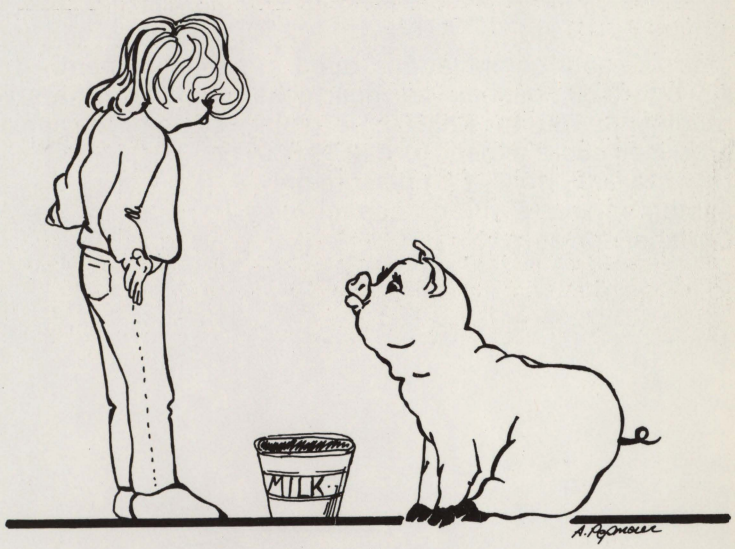
No, actually the smell got better as the day went on since I moved around and the wind direction changed. After I toured the hog pens I forgot about the odor.

One thing I loved about the pig farm was the little pigs. They are so cute when they're small. I even saw a delivery and I, Melissa M. Mosley, held a piglet after it was born. Unfortunately, I watched a couple of piglets die.

I love animals and whenever one of my cats, dogs, or pet birds died I would have a funeral for it. I could never have a pet pig, like Wilbur, in the book "Charlotte's Web." I came to the conclusion that it would be difficult for me to give the pig up for slaughter. My reasoning may sound disgusting, but at least I'm honest. I couldn't stand the thought of somebody eating my pet pig for breakfast.

Seriously, I eat very little meat, but that doesn't mean I'm not a "pork supporter" who is "leaning on pork." Although I hated to turn down good meat, I only ate a salad for lunch at the Ainsworth pig farm.

After we ate lunch, I went on a tractor ride. I enjoyed the ride very much. Some day I hope to learn how to drive a tractor. But, I'm one to admit the truth that if I had a choice, I would prefer a Porsche car over a John Deere tractor any day.



By now, it may seem ironic that some day I would like to live on a farm and grow my own vegetable garden and have pet pigs. But, as sensible as I am, I realize that not all humans are born to be farmers.

Truthfully, I respect farmers and those involved in the agriculture business. Without the farm business, I suppose city folks, like myself, would either starve or have to learn how to grow their own garden and raise their own farm animals. If that day comes, Lord help us all.

At least now I know how much work it is to be a farmer. If I ever decide to be a farmer, my first agricultural investment will be an alarm clock and one of those automatic coffee makers to wake me up at six a.m. every morning.

Since I'm not an early morning person, all I can say is, "Thank God I'm not a country girl." **a**

Editor's note—This issue marks the return of the Over the Brew column which first appeared in the Fall 1967 issue of the Ag. and usually commented on campus happenings in a humorous manner. Over the Brew last appeared in the Spring of 1975. We plan to incorporate this column as a regular feature and it will be written by various staff members.

Agricultural Club Directory

A service to students and departmental clubs in the College of Agriculture.

Ag Business Club--Open to all majors, but especially of interest to ag business majors. Club activities include a fall pig roast, sponsoring Ag Career Days, the annual banquet, intramural teams, and regular meetings featuring guest speakers. For more information, contact Todd Barker, 294-9105.

Ag Education Club--An organization serving the needs of ag education and ag Extension students. Contact Dr. Miller at 294-5872 for more information. Meetings are held the second Thursday of each month at 7 p.m., 250 Carver.

Ag Mech Club--Contact Nick Gubser at 292-6928 for more information about this club.

Dairy Science Club—Open to all interested persons. Club meetings are held the second Tuesday of every month in Kildee Hall. Contact the Dairy Science Office, 123 Kildee, 294–6021, or Davis Hanson, 294–5382.

Block and Bridle—Animal Science Departmental Club. Meetings are held at 7:30 p.m. every second Wednesday of each month. Contact Rick Powell, 294–7196.

Farm Operations Club—Open to all students interested in farming activities. Our group features speakers, current agricultural events, tours and recreational activites. Meetings are held monthly. Contact Jim Elliott, 292–3880.

International Agriculture Club--Open to international agriculture majors and any other interested students. Contact Dr. J.T. Scott, 294-4866.

ISU Horticulture Club--Open to all interested persons, the ISU horticulture club serves to further the horticultural education and interests of its members. Meetings are held at 7 p.m. the second and fourth Wednesday of each month, 118 Horticultural Building. Contact Philip Hammer, 294–1916 or 294–1771.

NAMA (National Agri-Marketing Association)--Contact Larry Knudsen, 292–5058, or Kurt Kastendick, 292–9330.

Agricultural Professional Directory

A service to the students and faculty of the College of Agriculture and to those agribusinesses interested in Iowa.

Managerial Services:
Career Specialist, Agricultural Division, 608 E. Kiracofe Ave., Elida, Ohio 45807, (419)339-1234, professional, technical and executive personnel search and recruiting for agribusiness and industry.

AGRI-associates, Inc., 1606 Brady Street, Davenport Iowa 52803, (319)323-3677 professional, technical and executive personnel search and recruiting for agri-business and industry.

Agra Placements Ltd., 1200-35th St., Suite 210, West Towers Building, West Des Moines, Iowa 50265, (515)225-6562, serving agricultural clients since 1974.

General Agribusiness:
Production Credit Association of Iowa, Box 1751, Ames, Iowa 50010.

Midwest Breeders Cooperative, Shawano, Wisconsin 54166 (715) 526–2141.

Feed Products:
Kent Feeds, Inc., 1600 Oregon St., Muscatine, Iowa 52761, (319)264-4211, manufacturers and distributors of animal protein supplements and animal care products.

Seed Products:
Garst Seed Co., Box 300, Coon Rapids, Iowa 50058.

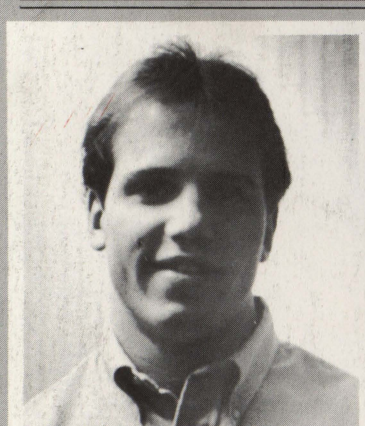
AG COUNCIL

Iowa State's Agriculture Council is made up of representatives for the student clubs in the College of Agriculture. The student representatives coordinate meetings for ag clubs, plan college-wide activities and take part in college planning. Ag Council annually sponsors the Ag Student-Professor Get Together and Spring Fling. It takes part in Career Day in the fall and Veishea in the spring. The Council has a voice on academic advising and curriculum committees.

To promote the college and the profession of agriculture, the Council sells caps. For more information regarding Ag Council activities and opportunities, contact your club's representative.

Ag Council--students working for students.

Council Offices



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Jane Siggelkow
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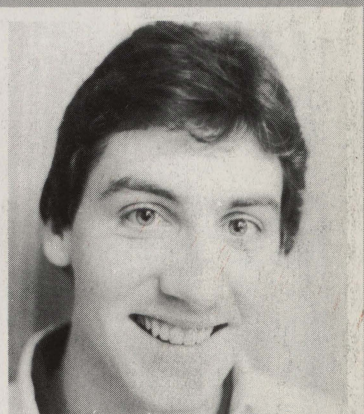

Terry Becker
Treasurer